

JANUARY/FEBRUARY 2000

# This Old House

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a '60s Ranch

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PULL-OUT POSTER:  
Classic American  
House Styles





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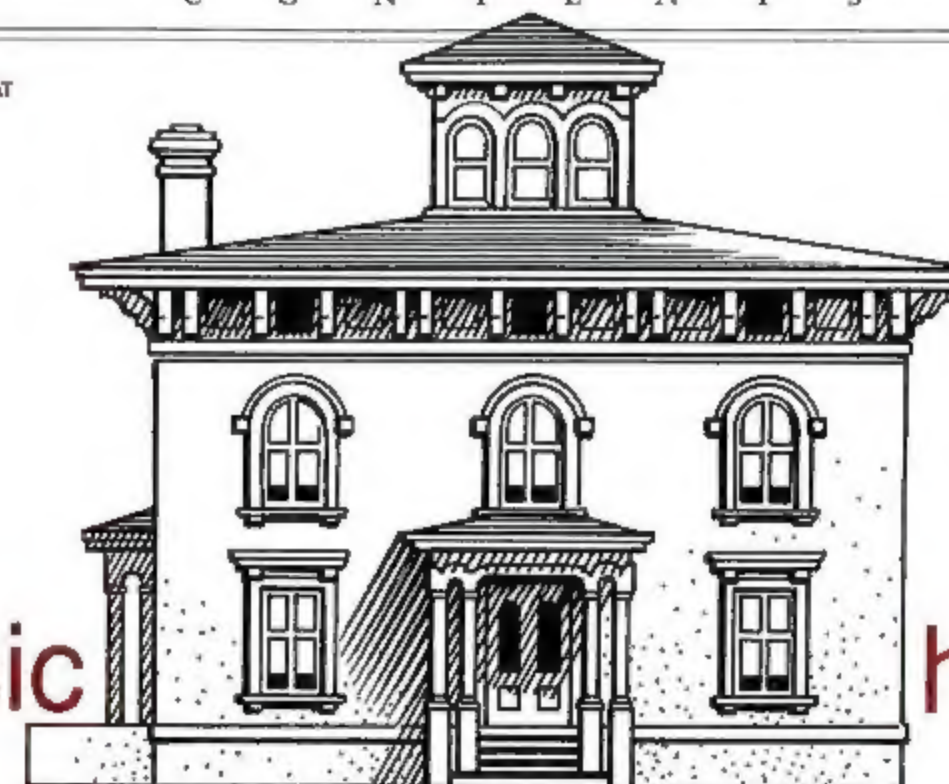
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C O N T E N T S

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JANUARY/FEBRUARY 2000



This month's pull-out poster highlights the most important house styles in America since 1700. See "Classic Houses," page 109. BY ALEXANDRA BANDON

## classic houses

### features

#### Opening Statement 73

At the fall TV project, T.O.H. contractor Tom Silva shows the right way to install a front door—in this case, a 160-pounder of mahogany. BY MICHAEL MCWILLIAMS Plus! Networking all their computers with a central processor lets the family play games and share files with one another from any PC in the house. BY CHRIS O'MALLEY

#### A Clean Slate 84

A California architect transforms an aging ranch through an inventive mix of materials. BY MARK MORRISON

#### The Best of *This Old House* 92

For 20 years, Norm Abram, Tom Silva, and the gang have introduced countless innovations to home construction. We take a look at the materials, tools, and techniques that have changed the way houses are built. BY CURTIS RIST

#### Building the New Hometown 100

Sprawling suburbs are giving way to new communities, where an old-fashioned village sensibility meets 21st-century eco-consciousness. And you can walk to the corner store for a quart of milk. BY BARBARA FLANAGAN



KNOCK, KNOCK, P. 73



REMEMBER WHEN? P. 92



LEAN AND CLEAN, P. 84

**cover** This Old House host Steve Thomas steadies the front door as contractor Tom Silva tightens the silicon bronze hinges at the fall TV project house in Billerica, Massachusetts. See "Opening Statement," p. 73. PHOTOGRAPH BY KELLER & KELLER





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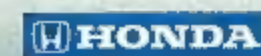
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"Some people gawk at their Picassos. I admire my indoor pool."

—Dave Brown, home owner

LAP OF LUXURY, P. 54

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By COLLIN PERRY



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RIP 'N' TUCK, P. 65

CLOCKWISE, FROM TOP: ANDRÉ BARANOWSKI, KELLER & KELLER, WILLIAM VAZQUEZ, MICHAEL GRIMM

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GET A GRIP, P. 58

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In "Building the New American Hometown" (page 100), **BARBARA FLANAGAN** reports on the "new urbanism" movement to solve the problems of the suburbs by re-creating the close-knit communities of the past. Flanagan, a former Los Angeles city planner who lives in Bethlehem, Pennsylvania, sees this trend as a

backlash against L.A.-style sprawl. "We can't just keep barreling along building anywhere and driving everywhere," she says. "People have to live more compact, reasonable lives." Flanagan writes about architecture and design for the House & Home section of the *New York Times*.

For "A Clean Slate" (page 84), **MARK LOHMAN** photographed the transformation of a 1968 California ranch house brought up-to-date through a sophisticated use of natural materials indoors and out. The Los Angeles-based photographer's work illustrates *Interior Designing for All Five Senses*, written by Catherine Bailly Dunne.



**STEPHEN M. POLLAN** and **MARK LEVINE** tell home owners how to exercise their inalienable right to protest unfair property tax assessments in this issue's Finances column, "Winning the Property Tax Game" (page 44). "Just because your municipality says you owe such-and-such doesn't mean you have to roll over and pay that amount," says Pollan. "Tax assessors do make mistakes." Pollan, a New York City-based financial consultant, and Levine, a writer who lives in Ithaca, New York, have written 15 books together. Their latest, *Turning No Into Yes*, was published in December by HarperCollins.

"Helping Hands" marks the debut of both a new column, "Talking Shop" (page 58), and the work of veteran design writer **PHIL PATTON** in *This Old House*. In

this issue, he reports on the trend toward ergonomic tools. "Just as everything had to be streamlined in the '50s, now everything has to look ergonomically blobby," says Patton. "But not all designs protect the user." Patton, who lives in northern New Jersey, writes for the *New York Times*, *Esquire*, and *Wired*.



## This Old House MAGAZINE

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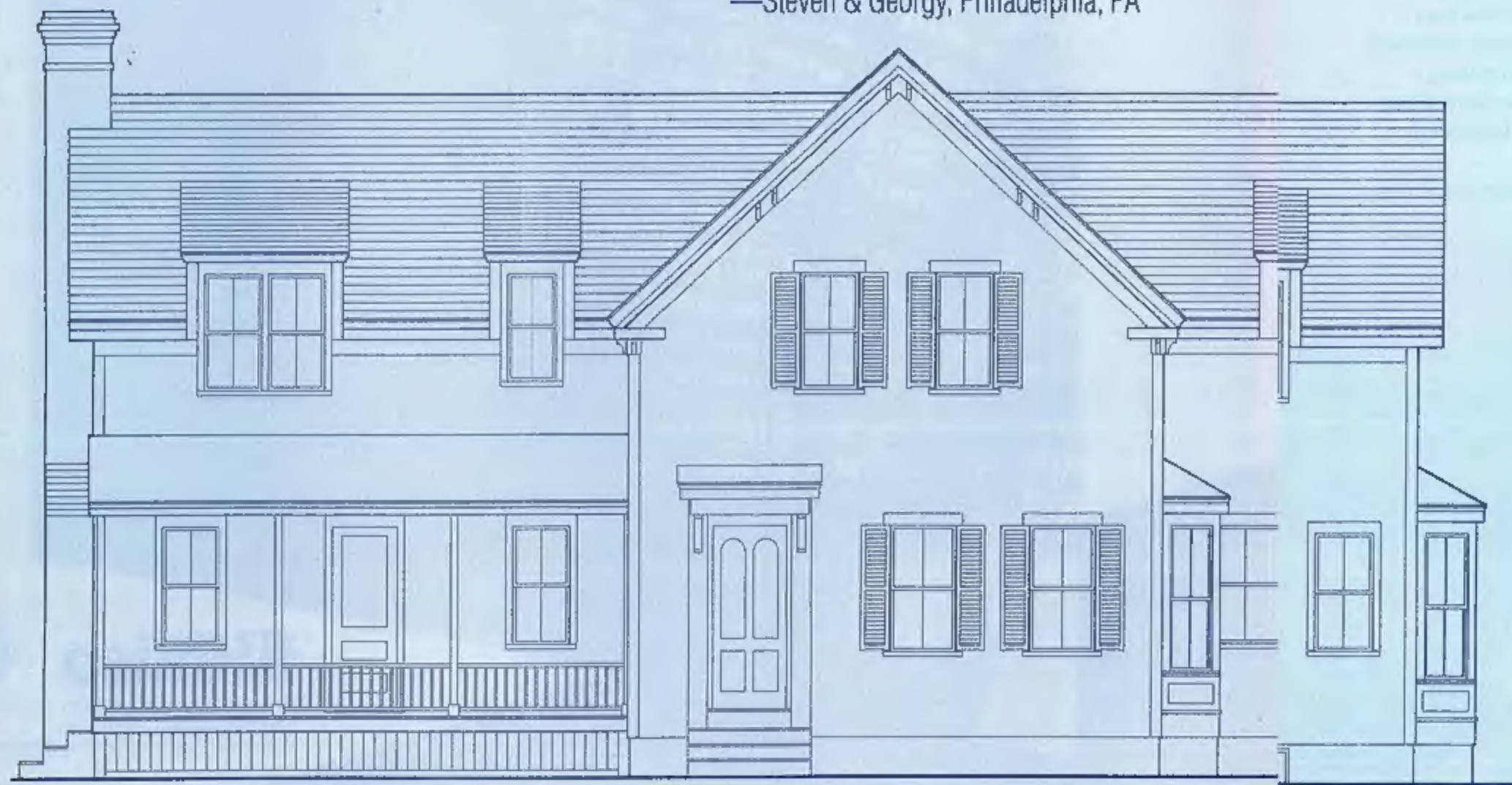
# What's the buzz on This Old House Online™?

*"The website is a creative resource tool. Thanks for the good work."*

—Ronald, Toronto, Canada

*"We had fun on the virtual tour of the Watertown house."*

—Steven & Georgy, Philadelphia, PA



East Elevation, Billerica, Massachusetts, Fall 1999 Project

*"The before-and-after floor plans are great.*

*They make it a lot easier to visualize how the rooms work together."*

—Kevin, Corner Brook, Canada

*"I think the floorplans are great. I just watched This Old House, and wanted to find out more about the project, and the website has been very informative."*

—Pete, Ellicott City, MD

*"The Resource Directory was a complete surprise..."*

*a very useful reference for me."*

—Lee, San Ramon, CA

*"I appreciate what you're trying to do for This Old House addicts*

*on the Net."* —Rachel, Yorkshire, U.K.

*"Download the project of your dreams... This Old House Online currently spotlights a fun San Francisco project... even if you're not about to undertake such a dramatic project yourself, the story is fascinating."*

—San Francisco Chronicle

*"Do some 'homework' before calling the contractors. See how the experts at This Old House have managed their televised renovations over the years."*

—Third Age

*"The site's Resource Directory shows loggers-on where to find items or services used on the program."*

—LA Times-Washington Post News Service

*"If you enjoy the TV show, you'll certainly enjoy taking a virtual tour of the newest project."*

—The Orlando Sentinel

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—Net Guide Now

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### Flimsy Chimney

Your story ["Fireplace In a Day," November 1999] explains that a 6-foot-tall brick chimney and terra-cotta chimney pot were constructed with a factory fire-

place, and that the weight of the masonry was placed on the wood structural system of the house. In my opinion, using this construction method is asking for problems. Generally, wood structural members are not strong enough to support the weight of a masonry chimney, and the situation can lead to sagging and leaking. Additionally, wood is subject to movement due to moisture and temperature changes, which in turn causes stress on the masonry, resulting in more leaks, sags, and some cracks. The proper method as I know it, if there cannot be a force path through masonry to the ground, is to use steel or reinforced concrete supports for a masonry chimney. The beams and girders should be so designed that the deflection at

the center (assuming symmetrical loading) is less than the length of the span divided by 600 ( $\frac{1}{600}$  inch in 5 feet).

STAN LACZ, LITTLE FALLS, N.J.

*Tom Silva responds: Thank you for being so concerned and taking the time to write. As important as the materials used is how they're put together. We didn't have space to go into all the details—such as the engineered lumber floor system that was built beforehand—but a lot of effort went into building the masonry chimney and we exceeded the engineer's specifications for a safe, sturdy structure.*

### Time Capsules

I enjoyed your article ["If These Walls Could Talk," November 1999]. Ten years ago my husband and I completely re-did a farmhouse, and, while taking the plaster off, we discovered a rolled-up 1909 newspaper tied with a ribbon. It was like finding a treasure. We also found some old negatives that had fallen into the wall from the attic. When we developed them, we saw that the enclosed porch had once been open and had a railing. When we put on an addition and two-car garage, we

left a newspaper in the wall as well. One day an older man stopped by when I was having a garage sale. He said he was raised in the house and that his father had built it. I showed him around, and he couldn't believe how different it looked. (We had moved every wall upstairs and taken one out downstairs.) Knowing something about the people who once lived in your home, especially those who built it, makes living there all the more personal. Even though we are not planning any more rehabs, we still love to watch *T.O.H.* and read the magazine.

RUBY MATHIEU, ROCKFORD, ILL.

### An Unnecessary Addition

In ["If These Walls Could Talk"] your author charts the different styles of American houses built over the last 376 years, which is very interesting. Why, then, is it so important to refer to Bill and Hillary Clinton buying a house in 1999? What significance did they have in the evolution of home style? Surely something more valuable happened in the housing industry this past year than the Clintons' purchase of an old house merely to establish residency in New York State.

DON K. NIELSEN, OMAHA, NEBR.

### Survey Says...

I was pleased to read your article about boundary disputes ["Loathe Thy Neighbor?" October 1999], but it was a little unsettling. The author wrote, "When boundary lines are hazy...the happiest outcome is when neighbors simply decide on a boundary line and put the agreement in writing." First of all, this could split the property unevenly. Secondly, there is a liability issue. No matter how friendly you are with your neighbor, if something tragic should happen with a tree near that boundary line and it damaged a house, who is going to pay for it? These issues come up and they cause real trouble. One permanent way to solve a boundary issue is to hire a surveyor to locate or set property corners and have it recorded with the county. Surveyors are not necessarily cheap, but your neighbor should be happy to share the bill. And the cost is well worth not having the headache, or heartache, later.

G.J. HARMINA, GREENBRAE, CALIF.

### The Barn Is the Best Part

I am an avid reader of your magazine, and I thoroughly enjoy seeing the metamorphoses of truly historic but damaged structures into

preserved works of art. Your staff captures the spirit not only of the finished product but also of the process used to complete the preservation. I recently purchased a partially restored 1860 Victorian home on the North Shore of Long Island, New York. A structure once used as a barn resides behind the house, and it is in major need of repair and preservation. The potential that exists is endless, and it will be a thrill to restore it, using your magazine as a guidepost.

FRANK G. FALCONE, CAVE CREEK, ARIZ.

### Lose the Lead

In your column ["Stripping Columns," Ask Norm, July/August 1999], a reader inquired about stripping paint from a porch column. Norm's response did not mention any of the precautions that should be taken if dealing with lead-based paint as cited in your article ["Got Lead?" March 1999]. Not entirely consistent, wouldn't you say?

ROBERT S. MOCHEL, GIBBSBORO, N.J.

*Actually, Norm recommended wearing gloves, goggles, and a face-mask respirator, as well as using a stripper instead of a sander*

*to remove the paint (a stripper reduces the amount of paint particles spread into the air). We generally don't provide detailed information in "Ask Norm," but for more information regarding lead paint removal, we suggest not only a careful read of our March 1999 story but also contacting the Environmental Protection Agency's Web site ([www.epa.gov/lead/rrpamph.pdf](http://www.epa.gov/lead/rrpamph.pdf)) and the Lead Information Center, 800-424-LEAD.*

### Punch List:

*definition: a list of items incorrectly done or remaining to be finished on a construction job*

November 1999

- The correct phone number for Shaker Workshops ("Table It," Furnishings, page 72) is 800-840-9121 (Directory, page 144).
- Credit is due D.J. Carey, who styled "Bathed in Luxury" (Dreamhouse, pages 114-118). For a list of resources related to the story, see "Where to Find It" in this month's Directory, page 119.

December 1999

- Donna Paul styled "For Starters," pages 118-126.

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# OUTTAKES

BEHIND THE SCENES AT THIS OLD HOUSE



## The Name Game

THIS OLD HOUSE CONTRACTOR TOM Silva is looking relaxed these days, thanks to his new floating dream house—a 34-foot Pearson power boat with enough room to sleep six, and outfitted with a TV, kitchenette, and shower. But something's missing: a moniker for the vessel. "A lot of guys name their boats after their wives, but my wife, Susan, thinks we can do better. So far the best we've come up with are *Silva Streak* and *Toolin' Around*," says Tom, who invites T.O.H. fans to send in their suggestions. The new name, he says, should be simple—"one to three syllables so it's easy

to say and understand in case we have to radio the Coast Guard in an emergency somewhere off Cape Cod." What's more, he says, the name should make no reference to *This Old House*. "My boat is my escape from work. When I'm on it, I definitely don't want a constant reminder of what awaits me back on land." Send your suggestions by January 31, 2000 to: Tommy's Boat, *This Old House*, 1185 Avenue of the Americas, 27th floor, New York, NY 10036; or e-mail them to TOH\_letters@timeinc.com. The winner will receive an autographed Silva Bros. T shirt.



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## OUTTAKES

### A Good Turn

ON THE ROAD TO RECOVERY FROM the fire that claimed all of their possessions, Dick and Sandy Silva have been inundated by well-wishers who've watched their new house going up on the *This Old House* television show and in the pages of this magazine. Although slightly embarrassed by all the attention, the Silvas really appreciate the sentiment behind it. A package from one viewer particularly overwhelmed them. After watching the first episode devoted to the Billerica, Massachusetts, project, in which Dick gave a tour of his home's ruins and

lamented the loss of his antique tool collection, Charlie Fridley was moved to send Dick a small antique screwdriver. "I was given this screwdriver when my father-in-law passed away," wrote Fridley, a former carpenter, who was permanently sidelined after suffering a fractured wrist two years ago. "I know it isn't much, but I hope that it helps pick up your spirits." The gesture "brought a tear to my eye," Dick says. "It took me years to build my old collection. I'd find items on job sites and tack them to a beam in the basement or kitchen. With this tool, I can begin collecting all over again."

#### Jan/Feb 2000 Calendar

##### NORM ABRAM

January 14—*The International Builders' Show*, Dallas Convention Center, 650 South Griffin Street, Dallas, TX 75202. Details: 800-368 5242, [www.buildersshow.com](http://www.buildersshow.com).

##### STEVE THOMAS

February 10—*Northeastern Retail Lumber Association Show*, Boston World Trade Center, 164 Northern Avenue, Boston, MA, 02210. Details: 800-292-6752.

February 12, 13—*Orchard Supply Hardware How-to Fair 2000*, San Mateo Expo Center, 2495 South Delaware Street, San Mateo, CA 94403. Details: 650-574-3247.

##### TOM SILVA AND RICHARD TRETHEWEY

February 27—*Pennsylvania Home Builders Show*, Pennsylvania State Farm Show Complex, 2301 North Cameron Street, Harrisburg, PA 17110. Details: 800-281 5539, [www.pahomeshow.com](http://www.pahomeshow.com).

Check out [www.thisoldhouse.org](http://www.thisoldhouse.org) to take a peek of the completed Billerica project—courtesy of *This Old House Online's* virtual tour—and get a 360° view of each room.

### Steve, Take Two

You might recall that Steve is famous on the set of *T.O.H.* for sideswiping a truck during the Nantucket project a few years ago. Things didn't go much better recently while he was shooting a scene at *This Old House* magazine's Dream House in Wilton, Connecticut. As Steve backed into the circular drive, he heard a "soft scraping noise that prayed was a giant urn tipping over," he says. "But when I got out I realized that the granite block on which the urn was sitting had creased the door." Problem number two: The van he was driving belonged to *T.O.H.* executive producer Russ Morash. "I think one of the first rules for getting along with the boss is to not wreck his car," says Steve. "Fortunately, Russ didn't have time to go ballistic—we had a shot to get and there wasn't much daylight left."



PHOTOS: FRANK WALSH (TOP), BRUCE IRVING



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# HOUSE CALLS WITH STEVE

## Light Touch

A gloomy kitchen gets turned into a sunny gathering spot for the family

S

BY HOPE REEVES

tanding in Ann and Peter Howley's newly renovated kitchen, Steve Thomas taps his fingers on a gleaming counter. "Nice stuff," says the host of *This Old House*. "I love the way the brass drawer pulls pick up flecks of mica in the green black granite." Steve shakes his head as he gazes at photos of the depressing kitchen that once occupied this space. "I can see how previous owners tried to turn a warren of little rooms into a family room-kitchen area, but they never solved the problem of poor light and awkward traffic flow," he notes. "Now the kitchen and sitting room are the best parts of the house."

Five years ago, when the Howleys moved into their 1926 Tudor in Wellesley, Massachusetts, they were charmed by the six-bedroom house, which sits on a hill and is surrounded by old growth oak trees and rolling lawns providing plenty of room for their Standard poodles Harvey and Grady to dart around. But the kitchen needed help. "It wasn't so much the kitchen's functionality—it worked okay," Ann says. "But, Lord, it was dark and ugly."

### PROBLEM

Steve nods in agreement, pointing out that "small windows and dark wood floors made this room utterly gloomy." Despite a redo in the '70s—complete with laminate countertops, walnut-stained cabinets, and fake foam ceiling beams—the kitchen was not a place where anyone would want to spend a lot of time. "There was so much potential to enlarge it and open it up," says Steve, "when you consider that they had a seldom-used study, a screened-in porch, and a laundry area sitting on the other side of the stairs." Those stairs, however, sat behind a wall that divided the space in half and prevented the sunlight on one side of the house from reaching the other.

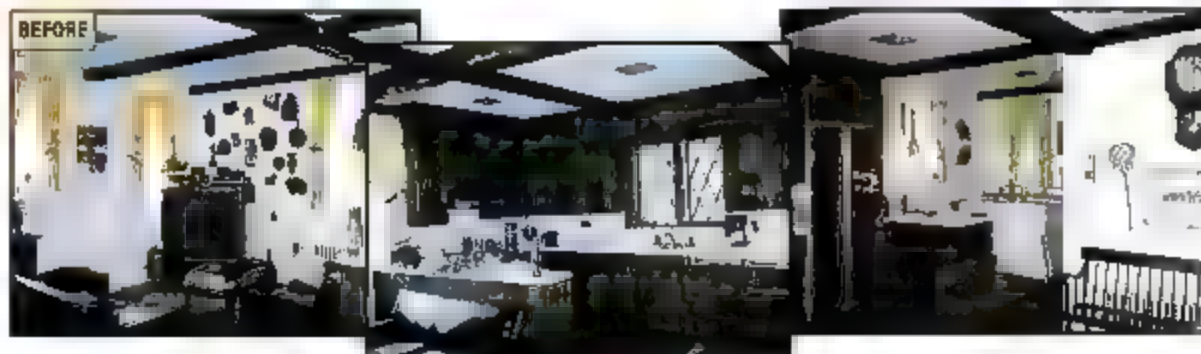
### SOLUTION

Says Steve, "As soon as the Howleys bought the house, they knew they were going to have to do something about



AFTER

TOP: T.O.H. host Steve Thomas and Ann Howley review the highlights of her kitchen renovation, which include an island with a recessed pastry counter. RIGHT: Her old mock-Tudor kitchen and family room lacked adequate light, appealing fixtures, and a workable layout.



PHOTOGRAPHS BY GREG PREMUR

STYLED BY J. SYBILLA SMITH/ENNIS 'BEFORE' PHOTOS COURTESY OF ANN & PETER HOWLEY



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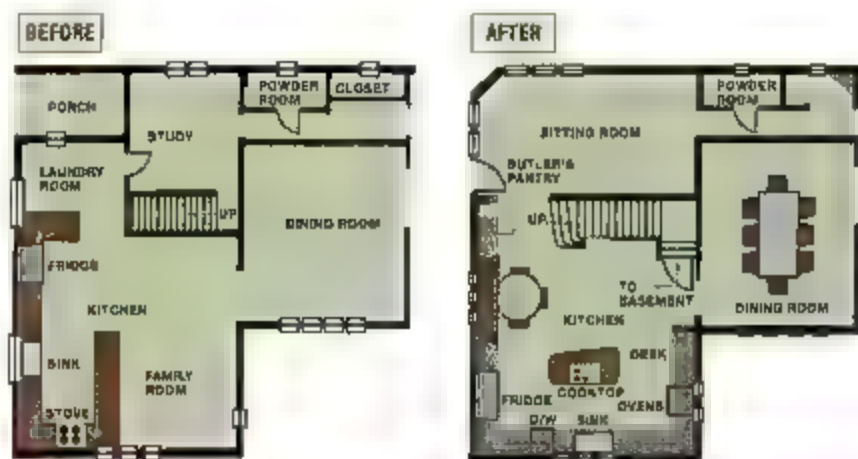
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# HOUSE CALLS WITH STEVE



*The Howleys turned several small, awkward spaces into two large rooms that flow better and are more functional.*

den behind a wall, the stairs now cascade into the middle of the room," says LaFleche. Ann thought about displaying her collection of 18th-century curio

plates and molds on the oak edges, which extend horizontally from the sides of the treads across the staircase. But she decided this architectural detail stood on its own as abstract art.

In the cramped kitchen, LaFleche stripped out the dark paneling, cabinetry, and flooring, ripped out the ell-shaped counter, and replaced the space-eating cast-iron radiators with thin-tubed forced hot water heat in the toe kicks and along the baseboard. On the other side of the stairs, he demolished walls to claim the porch and study for a sitting room, and the laundry area for a butler's pantry. (The washer and dryer were relegated to the basement.) LaFleche built fluted columns to frame the entrances between the kitchen and adjacent rooms, which Steve says "retained the division of space without isolating one area from another." To bring in more natural light, the architect replaced small diamond-paned and casement windows with larger double-hung ones spaced proportionately all around.

By absorbing the old family room, he expanded the kitchen, edging it with 33 feet of counters that culminate in a built-in desk near the dining room. An asymmetrical, curved island—supported by a wooden leg to make it feel like a piece of furniture—features a four-burner gas cooktop. One corner of the island drops to a height of 30 inches (as opposed to 36) to accommodate Ann's frequent baking.



ABOVE: By building the steps to rise the other way and taking down the walls that enclosed them, Treff LaFleche turned a chunky staircase into the architectural centerpiece of the enlarged kitchen and sitting room, creating open sight lines between the two rooms.

the hulking staircase in the middle of the room." He wondered why the stairs hadn't been eliminated entirely since there were two ways to go up. But then, he says, "the Howleys told me how much they used this route, and I could see that the architect's solution to remove the enclosure and reverse the direction of the stairs was a better idea—and not too expensive because they could retain the structural opening and just rebuild the steps."

Treff LaFleche, an architect with LDA Architects in Cambridge, Massachusetts, devised the plan. "Instead of being hid-

*Brass drawer pulls accentuate the mica highlights in the granite counters.*



## FINISHING TOUCHES

Wanting a "crisp, clean" country look, the couple settled on an oak floor with a brownish-black stain, black granite counters, and white painted cabinets, some with glass fronts. LaFleche added recessed halogens and spotlights. "Smart task lighting is a must for any serious cook," says Steve. "I also like the mini-butler's pantry between the kitchen and sitting room—it's convenient without yelling 'I'm new! I'm modern.' The Howleys now have a kitchen that functions well yet looks like it belongs in a 1920s house." ■

Do you have a completed renovation of a kitchen, bath, or other room you'd like Steve to share with readers of This Old House? Please send details and photos to House Calls With Steve, This Old House, 1185 Avenue of the Americas, 27th floor, New York, NY 10036.



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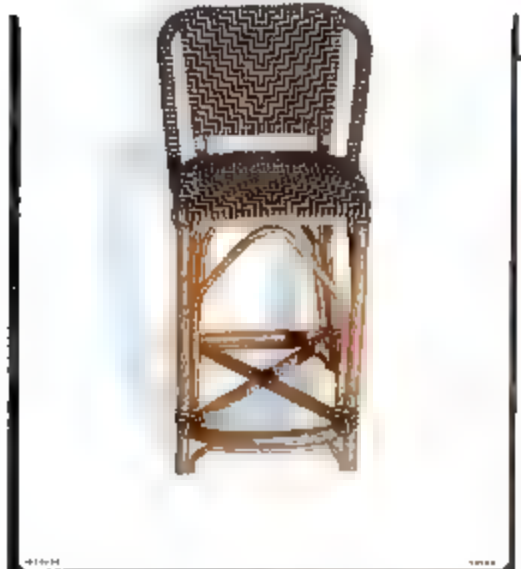
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## HOUSE CALLS WITH STEVE

IDEAS NOTEBOOK BY ROMY POKORNY



### CHAIRS

TOP LEFT: Tolando's petite, oak-stained bent-plywood stool sits on steel legs. RIGHT: A spoked-back cherry stool from Pompanoosuc Mills has a contoured sunvel-seat. BOTTOM LEFT: The black-and-white plastic "wicker" of Palecek's patio terrace stool could create a bistro look.

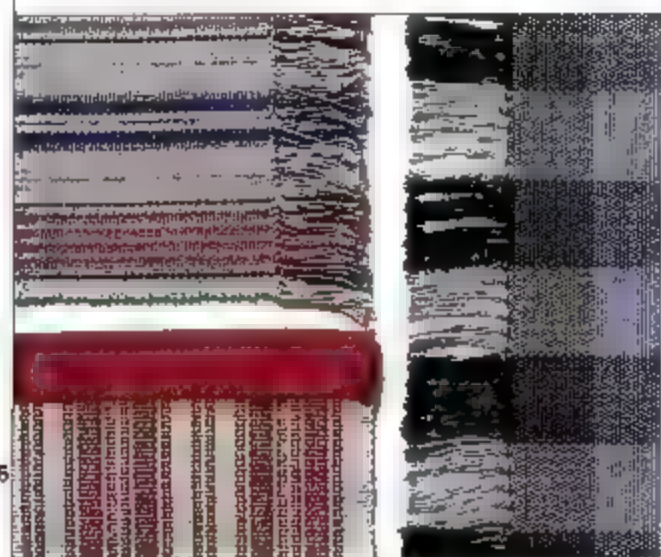


### LIGHTS

Installed under kitchen cabinets, down-lights—such as Ardee's small-bulb incandescent Clikstrip (LEFT) and Lucifer's halogen Puklight—could illuminate food-prep areas.

### RUGS

LEFT: The Howleys use area rugs to liven up their new oak floor. Other possibilities include Woodard Weave's cotton-blend flat-woven carpets in striped and plaid designs.



WHERE TO FIND IT — SEE DIRECTORY — PAGE 115

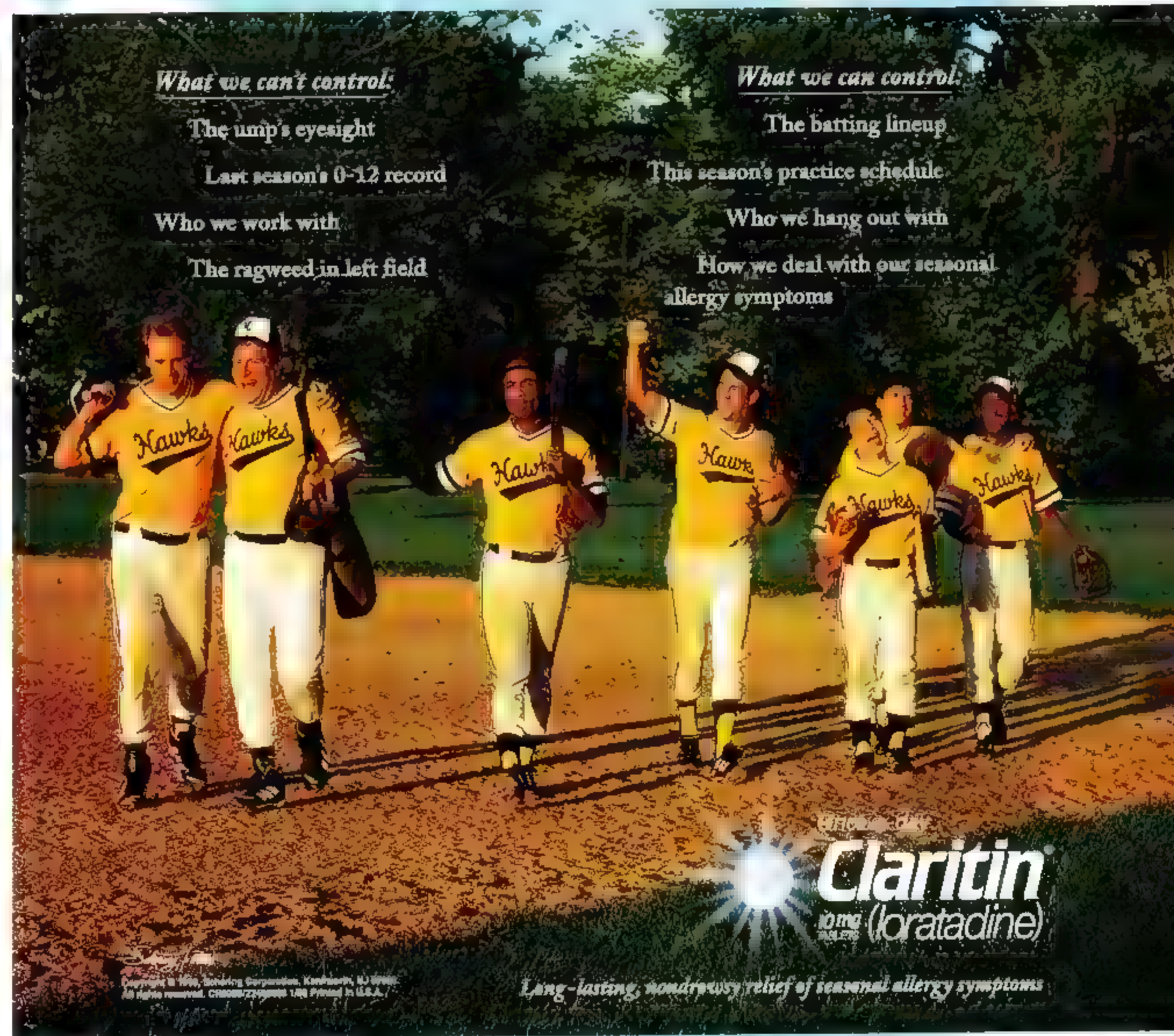
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# CLARITIN® brand of loratadine TABLETS, SYRUP, and RAPIDLY-DISINTEGRATING TABLETS

**Brief Summary (For Full Prescribing Information, see package insert).**

**INDICATIONS AND USAGE:** CLARITIN is indicated for the relief of nasal and non-nasal symptoms of seasonal allergic rhinitis and for the treatment of chronic idiopathic urticaria in patients 6 years of age or older.

**CONTRAINDICATIONS:** CLARITIN is contraindicated in patients who are hypersensitive to this medication or to any of its ingredients.

**PRECAUTIONS General:** Patients with liver impairment or renal insufficiency (GFR < 30 mL/min) should be given a lower initial dose (10 mg every other day). (See **CLINICAL PHARMACOLOGY Special Populations**.)

**Drug Interactions:** Loratadine (10 mg once daily) has been coadministered with therapeutic doses of erythromycin, cimetidine, and ketoconazole in controlled clinical pharmacology studies in adult volunteers. Although increased plasma concentrations (AUC 0-24 hrs) of loratadine and/or desloratadine were observed following coadministration of loratadine with each of these drugs in normal volunteers (n = 24 in each study), there were no clinically relevant changes in the safety profile of loratadine as assessed by electrocardiographic parameters, clinical laboratory tests, vital signs, and adverse events. There were no significant effects on QT, intervals, and no reports of sedation or syncope. No effects on plasma concentrations of cimetidine or ketoconazole were observed. Plasma concentrations (AUC 0-24 hrs) of erythromycin decreased 15% with coadministration of loratadine relative to that observed with erythromycin alone. The clinical relevance of this difference is unknown. These above findings are summarized in the following table:

**Effects on Plasma Concentrations (AUC 0-24 hrs) of Loratadine and Desloratadine After 10 Days of Coadministration (Loratadine 10 mg) in Normal Volunteers**

	Loratadine	Desloratadine
Erythromycin (500 mg Q6h)	+ 40%	+46%
Cimetidine (300 mg QID)	+103%	+ 6%
Ketoconazole (200 mg Q12h)	+307%	+73%

There does not appear to be an increase in adverse events in subjects who received oral contraceptives and loratadine.

**Carcinogenesis, Mutagenesis, and Impairment of Fertility:** In an 18-month carcinogenicity study in mice and a 2-year study in rats, loratadine was administered in the diet at doses up to 40 mg/kg (mice) and 25 mg/kg (rats). In the carcinogenicity studies, pharmacokinetic assessments were carried out to determine animal exposure to the drug. AUC data demonstrated that the exposure of mice given 40 mg/kg of loratadine was 3.6 (loratadine) and 18 (desloratadine) times higher than in humans given the maximum recommended daily oral dose. Exposure of rats given 25 mg/kg of loratadine was 28 (loratadine) and 67 (desloratadine) times higher than in humans given the maximum recommended daily oral dose. Male mice given 40 mg/kg had a significantly higher incidence of hepatocellular tumors (combined adenomas and carcinomas, 34% concurrent controls; in rats, a significantly higher incidence of hepatocellular tumors (combined adenomas and carcinomas) was observed in males given 10 mg/kg and males and females given 25 mg/kg. The clinical significance of these findings during long-term use of CLARITIN is not known.

In mutagenicity studies, there was no evidence of mutagenic potential in reverse Ames or forward point mutation (CHO-HGPRT) assays, or in the assay for DNA damage (rat primary hepatocyte unscheduled DNA assay) or in two assays for chromosomal aberrations (human peripheral blood lymphocyte clastogenesis assay and the mouse bone marrow erythrocyte micronucleus assay). In the mouse lymphoma assay, a positive finding occurred in the nonactivated but not the activated phase of the study.

Decreased fertility in male rats, shown by lower female conception rates, occurred at an oral dose of 64 mg/kg (approximately 50 times the maximum recommended human daily oral dose on a mg/m<sup>2</sup> basis) and was reversible with cessation of dosing. Loratadine had no effect on male or female fertility or reproduction in the rat at an oral dose of approximately 24 mg/kg (approximately 20 times the maximum recommended human daily oral dose on a mg/m<sup>2</sup> basis).

**Pregnancy Category B:** There was no evidence of animal teratogenicity in studies performed in rats and rabbits at oral doses up to 96 mg/kg (approximately 75 times and 150 times, respectively the maximum recommended human daily oral dose on a mg/m<sup>2</sup> basis). There are, however, no adequate and well-controlled studies in pregnant women. Because animal reproduction studies are not always predictive of human response, CLARITIN should be used during pregnancy only if clearly needed.

**Nursing Mothers:** Loratadine and its metabolite, desloratadine, pass easily into breast milk and achieve concentrations that are equivalent to plasma levels with an AUC<sub>0-24</sub>/AUC<sub>0-12</sub> ratio of 1.17 and 0.85 for loratadine and desloratadine, respectively. Following a single oral dose of 40 mg, a small amount of loratadine and desloratadine was excreted into the breast milk (approximately 0.03% of 40 mg over 48 hours). A decision should be made whether to discontinue nursing or to discontinue the drug, taking into account the importance of the drug to the mother. Caution should be exercised when CLARITIN is administered to a nursing woman.

**Pediatric Use:** The safety of CLARITIN Syrup at a daily dose of 10 mg has been demonstrated in 188 pediatric patients 6-12 years of age in placebo-controlled 2-week trials. The effectiveness of CLARITIN for the treatment of seasonal allergic rhinitis and chronic idiopathic urticaria in this pediatric age group is based on an extrapolation of the demonstrated efficacy of CLARITIN in adults in these conditions and the likelihood that the disease course, pathophysiology, and the drug's effect are substantially similar to that of the adults. The recommended dose for the pediatric population is based on cross-study comparison of the pharmacokinetics of CLARITIN in adults and pediatric subjects and on the safety profile of loratadine in both adults and pediatric patients at doses equal to or higher than the recommended doses. The safety and effectiveness of CLARITIN in pediatric patients under 6 years of age have not been established.

**ADVERSE REACTIONS:** CLARITIN Tablets: Approximately 90,000 patients, aged 12 and older received CLARITIN Tablets 10 mg once daily in controlled and uncontrolled studies. Placebo-controlled clinical trials at the recommended dose of 10 mg once a day varied from 2 weeks to 6 months' duration. The rate of premature withdrawal from these trials was approximately 2% in both the treated and placebo groups.

**REPORTED ADVERSE EVENTS WITH AN INCIDENCE OF MORE THAN 2% IN PLACEBO-CONTROLLED ALLERGIC RHINITIS CLINICAL TRIALS IN PATIENTS 12 YEARS OF AGE AND OLDER**

	LO RATADINE 10 mg QD n = 1926	PLACEBO n = 2545	CLEMASTINE 1 mg BID n = 536	TERFENADINE 60 mg BID n = 884
Headache	12	11	8	8
Somnolence	8	6	22	9
Fatigue	4	3	10	2
Dry Mouth	3	2	4	3

Adverse events reported in placebo-controlled chronic idiopathic urticaria trials were similar to those reported in allergic rhinitis studies.

Adverse event rates did not appear to differ significantly based on age, sex, or race, although the number of nonwhite subjects was relatively small.

**CLARITIN REDITABS (loratadine rapidly-disintegrating tablets):** Approximately 500 patients received CLARITIN REDITABS (loratadine rapidly-disintegrating tablets) in controlled clinical trials of 2 weeks' duration. In these studies, adverse events were similar in type and frequency to those seen with CLARITIN Tablets and placebo.

Administration of CLARITIN REDITABS (loratadine rapidly-disintegrating tablets) did not result in an increased reporting frequency of mouth or tongue irritation.

**CLARITIN Syrup:** Approximately 308 pediatric patients 6 to 12 years of age received 10 mg loratadine once daily in controlled clinical trials for a period of 8-15 days. Among these, 88 children were treated with 10 mg loratadine syrup once daily in placebo-controlled trials. Adverse events in these pediatric patients were observed to occur with type and frequency similar to those seen in the adult population. The rate of premature discontinuance due to adverse events among pediatric patients receiving loratadine 10 mg daily was less than 1%.

**ADVERSE EVENTS OCCURRING WITH A FREQUENCY OF ≥ 2% IN LORATADINE SYRUP-TREATED PATIENTS (6-12 YEARS OLD) IN PLACEBO-CONTROLLED TRIALS, AND MORE FREQUENTLY THAN IN THE PLACEBO GROUP**

	LO RATADINE 10 mg QD n = 188	PLACEBO n = 282	CHLORPHENIRAMINE 2-4 mg BID/TID n = 170
Nervousness	4	2	2
Wheezing	4	2	5
Fatigue	3	2	5
Hyperkinesia	3		1
Abdominal Pain	2	0	0
Conjunctivitis	2	<1	1
Dysphonia	2	<1	0
Malaise	2	0	1
Upper Respiratory Tract Infection	2	<1	0

In addition to those adverse events reported above (≥ 2%), the following adverse events have been reported in at least one patient in CLARITIN clinical trials in adult and pediatric patients.

**Autonomic Nervous System:** Altered lacrimation, altered salivation, flushing, hyposthesia, impotence, increased sweating, thirst.

**Body As A Whole:** Angioneurotic edema, asthenia, back pain, blurred vision, chest pain, earache, eye pain, fever, leg cramps, malaise, rigors, tinnitus, viral infection, weight gain.

**Cardiovascular System:** Hypertension, hypotension, palpitations, supraventricular tachyarrhythmias, syncope, tachycardia.

**Central and Peripheral Nervous System:** Blepharospasm, dizziness, dysphonia, hyperlipemia, migraine, paresthesia, tremor, vertigo.

**Gastrointestinal System:** Altered taste, anorexia, constipation, diarrhea, dyspepsia, flatulence, gastritis, hiccup, increased appetite, nausea, stomatitis, toothache, vomiting.

**Musculoskeletal System:** Arthralgia, myalgia.

**Psychiatric:** Agitation, amnesia, anxiety, confusion, decreased libido, depression, impaired concentration, insomnia, irritability, paranoia.

**Reproductive System:** Breast pain, dysmenorrhea, menorrhagia, vaginitis.

**Respiratory System:** Bronchitis, bronchospasm, coughing, dyspnea, epistaxis, hemoptysis, laryngitis, nasal dryness, pharyngitis, sinusitis, sneezing.

**Skin and Appendages:** Dermatitis, dry hair, dry skin, photosensitivity reaction, pruritus, purpura, rash, urticaria.

**Urinary System:** Altered micturition, urinary discoloration, urinary incontinence, urinary retention.

In addition, the following spontaneous adverse events have been reported rarely during the marketing of loratadine: abnormal hepatic function, including jaundice, hepatitis, and hepatic necrosis;

alopecia; anaphylaxis; breast enlargement; erythema multiforme; peripheral edema; and seizures.

**OVERDOSAGE:** In adults, somnolence, tachycardia, and headache have been reported with overdoses greater than 10 mg with the tablet formulation (40 to 180 mg). Extrapyramidal signs and palpitations have been reported in children with overdoses of greater than 10 mg of CLARITIN Syrup. In the event of overdosage, general symptomatic and supportive measures should be instituted promptly and maintained for as long as necessary.

Treatment of overdosage would reasonably consist of emesis (ipecac syrup), except in patients with impaired consciousness, followed by the administration of activated charcoal to absorb any remaining drug. If vomiting is unsuccessful, or contraindicated, gastric lavage should be performed with normal saline. Saline cathartics may also be of value for rapid dilution of bowel contents. Loratadine is not eliminated by hemodialysis. It is not known if loratadine is eliminated by peritoneal dialysis.

No deaths occurred at oral doses up to 5000 mg/kg in rats and mice (greater than 2400 and 1200 times, respectively, the maximum recommended human daily oral dose on a mg/m<sup>2</sup> basis). Single oral doses of loratadine showed no effects in rats, mice, and monkeys at doses as high as 10 times the maximum recommended human daily oral dose on a mg/m<sup>2</sup> basis.

*Schering*

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Rev. 1/99

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CLARITIN REDITABS (loratadine rapidly-disintegrating tablets) are manufactured for Schering Corporation by Schering DDS, England.

J.S. Patent Nos. 4,282,233 and 4,371,515

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# ASK NORM

## What to do about leaking porches, flooded bathrooms, and old smoke detectors

### RETROFITTING FIXTURES

I plan on returning the bathroom of my 1903 wooden-frame row house to something like original condition to undo an incongruous 1978 renovation. What's your opinion of retrofitting old bathroom fixtures? Also, since many of those available are badly rusted around the drain, how can I remove the rust? Should I replace the faucets?

JANET MERRILL, CAMBRIDGE, MASS.

Old tubs and sinks work beautifully if they are in good shape, although Richard Trethewey raises one caveat: using turn-of-the-century fixtures can be tricky because they may not match up with today's faucets, pipes, and drains. He says your plumber should be able to customize either the fitting or the fixture, but it could get expensive: "Have your check-book ready," he cautions. To get rid of the rust stains, I'd use oxalic acid diluted 1:10 in water. (Take care, though, because that solution is mildly caustic.) If the surface is rough or pitted from repeated scrubbing over the years, you can mix up a paste with one of the commercial powder products containing oxalic acid, and let it sit on the stains for a while before rinsing. I think it's a good idea to replace old, worn-out faucets with new ones. Bright, smooth-turning units will enhance the finished appearance of your bathroom and be easier to fix if they ever start dripping. Just about every major manufacturer now makes "period" replicas that will complement your classic porcelain fixtures.



### GETTING SOAKED

Just after I moved into a new house, the hot-water line in the bathroom burst, flooding the master bedroom and closet. What damage can I expect to the OSB (oriented-strand board) subfloor and drywall ceiling? Both were soaked for at least seven days. I have already been told the carpet will rot. How soon must repairs be made, and what should be done? The builder is acting as if this is not a problem, and has said nothing about repair under the warranty.

ROBERT ROVEGNO, BREVARD, N.C.

It's time for some straight talk with your builder. If this happened within the one-year warranty period typically provided by builders of new houses, this is clearly his responsibility. All those water stains you probably see are just a sign of worse things to come. The soaked OSB and drywall are certain to eventually break down, de-laminate, or turn moldy. You need to replace the soaked elements and thoroughly air out the spaces around affected walls and floors, and the sooner the better. Repairs now will minimize prob-

lems down the line and probably save the builder from getting soaked by additional costs and trouble. This seems like a simple choice for all concerned.

### TOO MUCH FOAM

I recently replaced an exterior door on my house and decided to use a can of spray foam to seal around the door and under the trim. I've seen this material used on several *This Old House* projects, but after several weeks, the door stopped closing properly. After I removed the insulation, the door worked fine. Have you ever experienced this problem?

STEVE MCKELVEY, ALTUS, OKLA.

Insulating with foam sure beats stuffing cracks with fiberglass because foam expands to form a tight seal against drafts as well as the cold. But you're not alone in discovering that too much polyurethane foam can exert enough pressure to bend a door or window jamb, particularly if you installed the trim before the foam was fully hardened. Next time, fill only about a third of the cavity with a latex or a minimally expanding poly-foam, and let it cure overnight. Then, before you install the trim, slice off any excess with a utility knife.

### MORTAR MISMATCH

I recently patched some of the mortar joints in an indoor flagstone floor, but the repaired areas are very distinct from the original joints, and I don't think that looks very good. What can I do to make the mortar blend in?

JIM PILEGGI, AMBLER, PA.

You could experiment with mortar stains, but I think you'd be asking for trouble; the color will probably still be inconsistent. You could replace all the old mortar with new, but that's an awful lot of work. I'd try cleaning the old joints first with muriatic acid to see if they can blend a little better. Otherwise, try a little patience; the patched joints will gradually gain some patina and match the older ones.

### SMOKE DETECTOR LIFESPAN

I was wondering about the life expectancy of hard-wired smoke detectors. My house is about 15 years old and I think the original detector is still in place. Should I replace it?

DON HERMON, BOISE, IDAHO

I would. The National Fire Protection Association figures that after about 10 years, the sensors in all smoke detectors can no longer be trusted. To keep a younger smoke detector in working order, test it frequently, and vacuum it once or twice every year to remove cob-



## ASK NORM

webs and dust. If you get a battery powered detector, it will need fresh batteries at least every year, although some organizations suggest replacing them every six months.

### CARING FOR A BUNGALOW

I own a 1918 Arts and Crafts bungalow. Where can I get information on this kind of home?

LYNDA GERKEN, LIBERTY CENTER, OHIO

You can find information about bungalows through magazines (*American Bungalow*), books (*American Bungalow Style* by Alexander Vertikoff), and Web sites ([www.netcom.com/~shara/main](http://www.netcom.com/~shara/main)). As for authentic colors, I defer



to bungalow expert Robert Schweitzer, who says, "Choose colors from an autumn palette: Browns, tans, dark yellow, even dark olive green would be fine." He adds that vintage issues of magazines like *American Home*, *House Beautiful*, or *House & Garden* are good places to find the color choices of that era; look for them in a large public library. Or you can check the Roycroft Arts and Crafts color chart from Sherwin-Williams. "Just steer away from bright Victorian colors," he says.

### WHAT'S IN A TITLE?

Having been on *This Old House* for 20 years, you must have been an accomplished carpenter by your early 20s. How did you get your training and what advice would you give someone wanting to set out in the business? You obviously have some engineering experience. What's your recommendation for getting such training? And is "master carpenter" a guild or labor-union distinction—or is it an informal title obtained through years in the trade?

SHAWN WEIMAN, THORNTON, COLO.

There's no getting around it. I'm incredibly fortunate to have this career, but it didn't happen overnight. As a teenager, I worked with the same construction firm as my father and continued right through college. Yes, I did study engineering, but it hasn't been nearly as useful as the practical know-how I got from hands-on experience. By the time I started my own business in 1975, I had a wide range of serious projects under my belt—mistakes and all, of course. Through several strokes of good luck, and by being in the right place at the right time, I was asked to help out on the early episodes of *This Old House*. The rest, as they say, is history. For people who want to make a living in the home-building trade but don't have the advantage of a background in construction, I'd recommend technical training at a good vocational school combined with college courses in business and engineering. But the real education happens on the job; it's important to start apprentice-level work as soon as possible. Now, about that "master carpenter" title: It's an informal

## ASK NORM

distinction recognizing years of work at a craftsman level. I'm honored that others think enough of my skills to bestow it. Truth be told, I'm still thrilled that I get to do a little this on TV and in print.

### STOP THE LEAKS

When we removed the artificial turf that the previous owner had glued to the porch floor, we found unglazed 6x6 quarry tiles beneath, set in a concrete slab. Now we have to get rid of the adhesive residue and seal the slab, which covers a wing of the basement where we have an oil tank and a small workshop. When rain hits the floor, water seeps down through cracks in the slab and drips into the basement. We'd like to restore the porch and eliminate the leaks. Do you have any suggestions?

JOHN SIKET, WEST LAWN, PA.

The previous owner might have glued down the artificial turf in a misguided attempt to stop water from entering the slab, but more likely they were trying to keep people from slipping on the wet tile. Removing the remaining adhesive is the least of your problems. Unfortunately, there's only one sure way to stop the leaking, according to Tom Silva's tiling contractor, Joe Ferrante: to lay new frost proof tile over the old. He recommends first rolling on a liquid waterproofing such as Hydroment Ultrasel, making sure to cover all the edges and up the curb on the house. Then fill in any unevenness by troweling on a mix of two parts sand to one part cement. The tile can be placed directly on the cement mix using a thinset mortar rated for exterior use. Just be sure that all the waterproofing is covered, otherwise the sun will deteriorate it. Also, the temperature needs to be above 55 degrees when the tile is laid or the mortar will not harden properly. As you might imagine, this is a job for an expert tile setter.

### PATENT PENDING

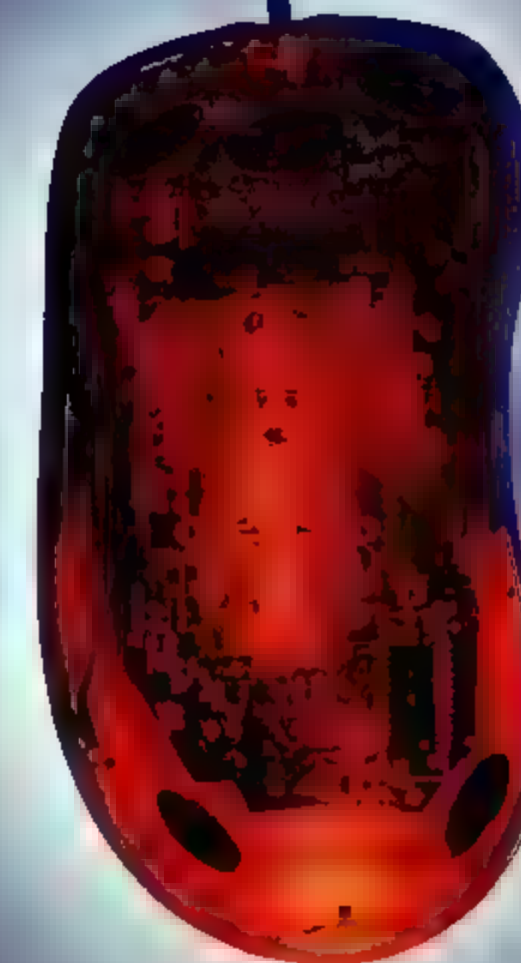
During one remodeling project, I found that the handle of my paint brush was too long to get into a rather small space. This got me thinking, and I ended up inventing a new paint brush. I have a patent pending on it, but I don't know what to do next. Any ideas?

JEFF HITZLER, GREEN BAY, WISC.

I'm always amazed at how many new products are invented every year by carpenters, tradesmen, and folks like yourself. I guess when you work hard with tools, you're bound to discover ways to improve them. There are several good resources for inventors (and would-be inventors), including the United Inventors Association and the Inventors' Digest Online. Good luck. ■

Send questions to Ask Norm, *This Old House* magazine, 1185 Avenue of the Americas, 27th floor, New York, NY 10038. Include a complete address and daytime phone number. Published letters will be edited for clarity and length and may be used in other media.

area 51



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TOP: "We needed more space, but we wanted it to look nicer," says Christine Mitchell, of the once-plain Cape she shares with her husband Tom, and their two daughters (BELOW). LEFT: With a large addition, a brick chimney and a sunny deck, "it's gone from a place we were ready to leave to a place we could call home forever."

## Icing on the Cape

A Massachusetts couple turns an austere 1950s cottage into a charming home with plenty of room for their family

BY CURTIS RIST

**S**

oon after renting an apartment near Lexington, Massachusetts, Tom and Christine Mitchell fell in love with the place and began looking for a house to buy. "Lexington had all these quaint buildings, and a village green where the Minutemen stood up to the British in the first battle of the Revolutionary War. It was completely charming and historic," says Christine. But the only house they could afford there—a drab 1952 Cape—was anything but. The dark six-room home offered barely enough space for the couple to maneuver, and it bore none of the Colonial-era character of the neighborhood. It sat next door to a brick industrial building and didn't have much of a front yard. "It was hardly perfect," says Christine Mitchell, but it was in Lexington, a short walk to the town center, and near a bike trail that Tom could ride to his job as a software engineer. "We bought it thinking we could trade up to something larger and more graceful in a few years."

But five years later, the couple found themselves still living there. A burgeoning real estate market had pushed the price of a bigger house in Lexington farther out of reach. So, with a 2-year-old daughter, and a second child on the way, the Mitchells decided to try to turn their dreary residence into the place of their dreams. That might seem a gargantuan task for so humble an abode, but the Mitchells



PHOTOGRAPHS BY KELLER & KELLER

\*BEFORE: PHOTOS COURTESY OF THE MITCHELLS

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had a secret weapon: Tom Silva, *This Old House* contractor, who kept a storage shop in the building next door. "I've never seen a house that can't be renovated, as long as the structure is sound," says Tom.

The Mitchells had a wish list of interior features: a family room, a brick fireplace, a master bedroom, and a mudroom to prevent their children from tracking dirt through the house. They wanted to relieve the cramped feeling of the 7½-foot ceilings downstairs, add light to the existing attic bedrooms, and revamp the claustrophobic entryway to the house. And they envisioned a complete transformation of its exterior character. "The house really needed something to distinguish it, beyond

its proximity to a factory," says Lexington architect Rick Bechtel.

*The bright new family room "gives a sense of the yard and the outdoors that the old house totally lacked," says architect Rick Bechtel. "A dark, inward-looking place turned into a bright, outward-looking one."*

To start, he gave the facade more stature by adding twin dormers, which also brought light and space to the upstairs bedrooms. But the focus of the renovation was the

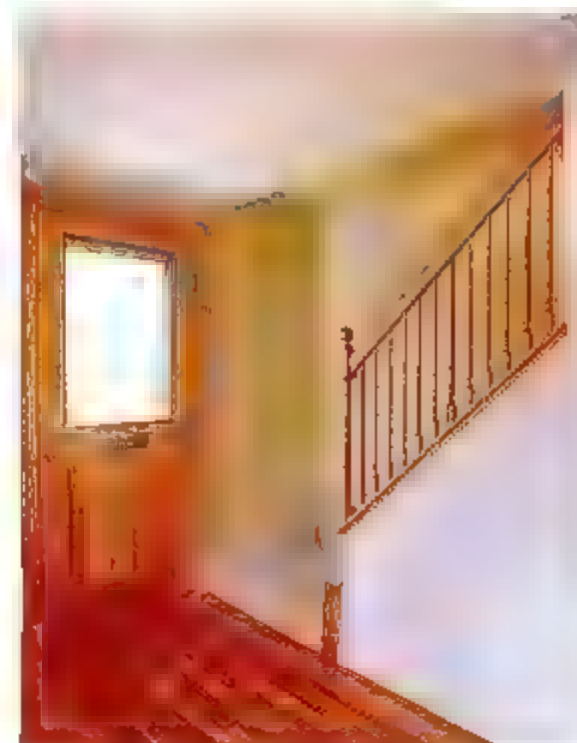
addition of a 650-square-foot ell in back that added visual appeal to the exterior and a family room and master suite to the floor plan. The family room's wall of French doors opens onto a new deck and admits much-needed light. Its lofty 9-foot ceiling (achieved by situating it two steps down from the kitchen) "was just the antidote to that oppressive feeling the other downstairs rooms had." And by extending 16 feet into the backyard, the ell screens the factory from view.

Inside, Tom made the house more comfortable by installing new windows to cut down on winter drafts, and filling the walls, which had never been insulated, with foam. He also put in radiant floor heat, replaced all the wiring, and built a new roof. Because the house, which grew from 1,400 to 2,200 square feet, is still comparatively small, he wanted to maximize storage space. Since the attic contained the children's bedrooms, he turned to the basement, "which is the least expensive place to create storage—you just need to make sure it's dry." The original base-

ment was of little use; it contained ledge rock that had never been removed. Under the addition, however, Tom was able to build a full, 320-square-foot cellar that contains all the mechanical systems as well as lots of shelves for storage. "It's the hidden components that turn a house into something you can really love," says Tom. These unseen comforts, and the very visible makeover of the house's design and layout, turned the Mitchells' Lexington home into a place where they can happily raise their family. ■



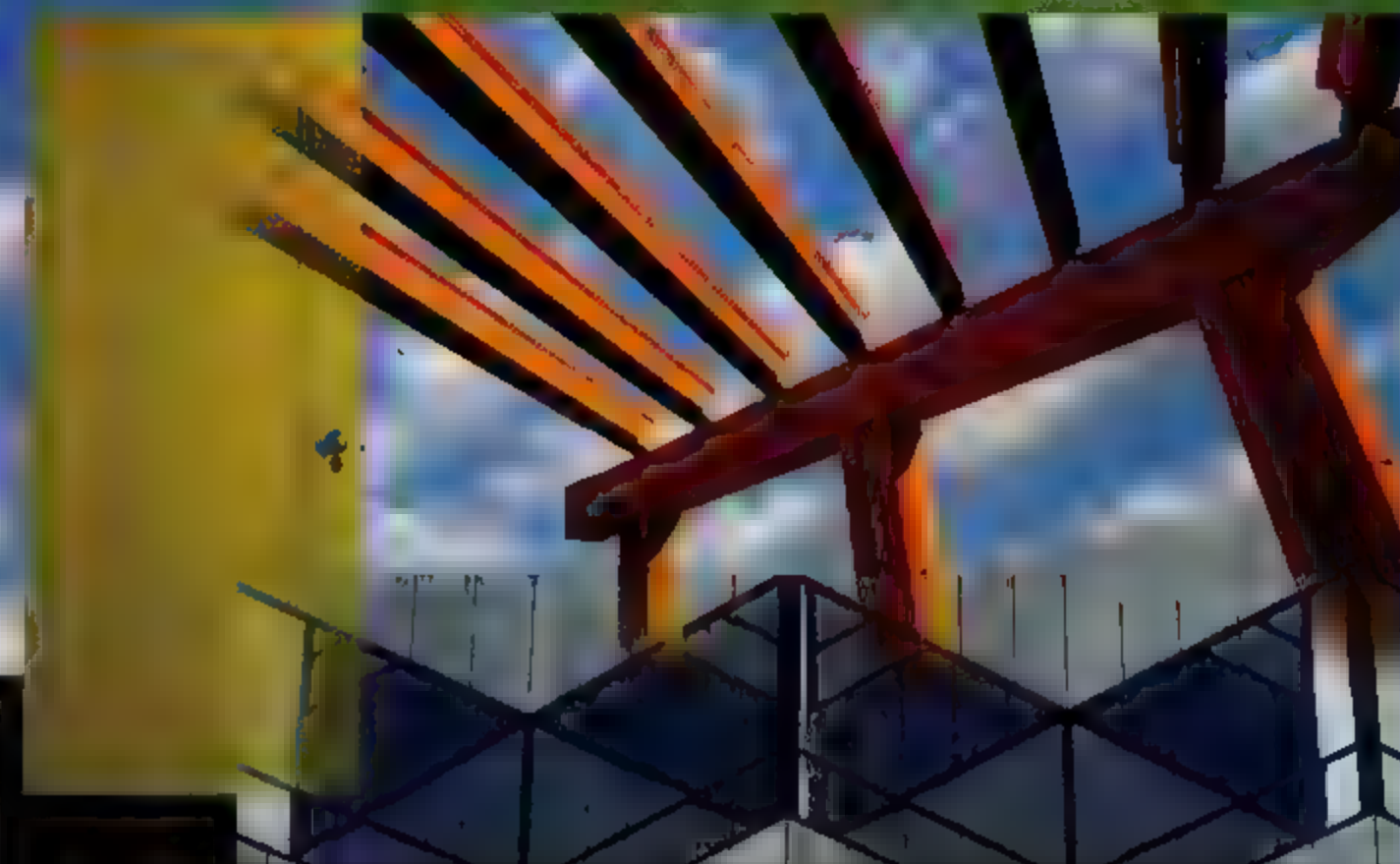
LEFT: Originally, the staircase was closeted into an alcove by the front door, and seemed "cold and lonely," says architect Bechtel. CENTER: Tom Silva's nephew Charlie ripped down a wall and eliminated a coat closet, then built a new, grander staircase. RIGHT: With an Arts and Crafts-style door, the reborn entryway "looks welcoming rather than off-putting," says Bechtel.



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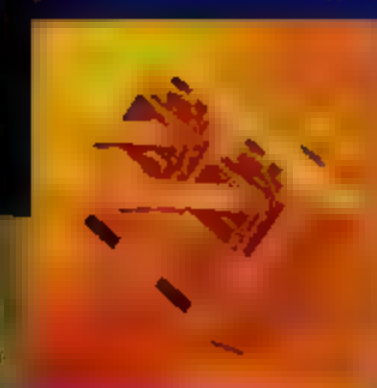
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## One and One Makes Glue

For super-strong repairs to rotten wood, broken concrete, and shattered tiles, just stir up some epoxy.

**S**ay the word "epoxy" and most people think of Super Glue. But while epoxy is indeed a super glue, one with unmatched strength and tenacity, it can do far more than the acrylic-based Super Glue and Krazy Glue, which merely stick things together (think, guys hanging from hard hats adhered to I beams). Epoxies are versatile substances that can fill, patch, and bond an astonishing array of materials—including tile, concrete, and metal—and enhance the inherent characteristics of others, such as grouts, paints, and terrazzo. They've changed how airplanes are built and how stone is fabricated; but their greatest impact has been on the way we care for wood, making these adhesives one of the most valuable tools in the home-repair arsenal.

Invented in 1937 by the British chemist W.H. Moss, epoxies were first adopted by the builders and owners of wooden boats, who needed an adhesive that was waterproof, strong as well as resilient, and that could be shaped, fastened, sanded, and painted just like wood.

In the 1970s, carpenters followed the boat builders' lead and began using epoxy to save rotting wood sills, windows, doors, beams, and column bases instead of throwing them away and making new ones. Epoxies proved faster, easier, and, in the long run, cheaper than traditional remove-and-replace methods, and much more reliable than polyester auto-body fillers or Dutchman repairs (in which the damaged area is cut out and a carefully fitted piece of wood is glued in its place). Tom McGrath, the superintendent at the National Park Service's Historic Preservation Training Center, remembers those heady days when his crews of preservation carpenters began trying out epoxy. "We used it by the gallon," he says. "We thought we'd found a magic bullet that could solve everything."

Epoxy starts out as two limp, syrupy liquids, but when mixed together they combine chemically to form one of the world's toughest, most versatile adhesives. A quick-setting formula, above, hardens in one minute and has a tear strength of 1,400 lbs. When mixed, the blue color disappears, leaving a slight amber tint.

PHOTOGRAPH BY GARY McLEOD

# Ever notice how the sheep follow the Ram?



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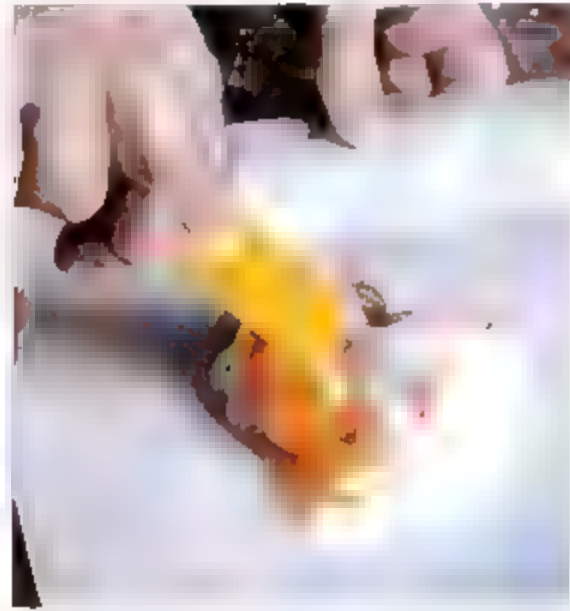
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## EPOXY REPAIR IN THREE BASIC STEPS



A special two-tube caulk gun dispenses the two components of a wood-repair epoxy that's as viscous as Vaseline. A clean sheet of plastic makes the best mixing surface: epoxy can't stick to it.



Once the two parts are blended to a uniform color (about 30 to 45 seconds), the clock starts ticking: in 45 minutes it will be hard. Because this epoxy is so thick, an epoxy primer has to be applied to the wood first to ensure a good bond.



ABOVE: Using a plastic putty knife, the epoxy is sculpted to match the damaged section of a porch finial. BELOW: After sitting overnight, the cured epoxy must be sanded so that it can be primed and painted.

There is indeed something magic about the way epoxies work. Unlike most adhesives, epoxy consists of two distinct parts: a petroleum-based resin (referred to as Part A), and a hardener (Part B), generally comprised of nitrogen-rich amines derived from ammonia. As long as both parts are kept separate, they remain inert, but when mixed together, these two viscous liquids start reacting. Long chains of molecules form a tight lattice of larger and larger molecules, each one branching out with many arms to connect with branching arms from other molecules, until they form a "permanently cross-linked polymer"—a dense, solid plastic. This curing process can last for days, long after the epoxy appears to have dried.

While epoxies all share this basic chemistry, the makeup of the resins and hardeners can be endlessly customized. Viscosity, curing time, hardness, flexibility, and resistance to heat and chemicals are just a few of the properties that can be altered. In fact, the trend over the last two decades is toward more and more specialized formulations for accomplishing specific tasks on certain materials. Visit any hardware store nowadays and there are dozens of different types lining the shelves, everything from fast setting epoxies that harden in 60 seconds (for repairing cracked porcelain), to high-strength epoxies that survive tons of tearing force (for fixing load-bearing beams), to epoxies filled with microscopic glass balloons (for easy to sand wood patches). And if your needs are more demanding—repairing a foam bumper, making conductive silver-laced epoxy circuit boards, or coating aerospace components that will tolerate temperatures of up to 300 degrees Celsius—there are epoxies that will fit the bill. This *Old House* contractor Tom Silva, for one, has used epoxies to salvage everything from rotted mudsills to delicate window sash; once he even built a sink by epoxying slate slabs together.

But even magic bullets have their drawbacks. Epoxy is not the easiest material to work with. To cure properly, it has to be mixed thoroughly and in the precise ratios



PHOTOS: MICHAEL GRIMM

# THE NEW YANKEE WORKSHOP

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A one-to-one mix of the epoxy resin (white) with hardener (dark gray) produces a light-gray adhesive that is stronger and more durable than concrete. Once mixed, it takes 90 minutes to harden.

Able to withstand up to half a ton of shear force, this clear resin is perfect for repairing fiberglass and plastics other than polyethylene. Because it hardens in 30 minutes, it is best mixed in small batches.

Metal epoxies, in both steel- and copper-colored mixes, take only about three minutes to kick off (harden). This epoxy comes as two-putties that have to be kneaded together before it will harden.

Epoxy grout's resistance to staining and chemicals makes it ideal for tiled countertops. It has a 60-minute working time, so large areas can be covered in one mixing, and is available in a variety of colors.

established by the manufacturer, poorly mixed or measured solutions leave soft, tacky spots where hardening is incomplete. Timing is critical—the mixture hardens irreversibly—but curing times are elastic, depending on the temperature: Cold slows down the cure, warmth speeds it up. And because the formation of all those

molecular bonds generates its own heat, it's best to mix up small amounts, or to spread the mix out over a wide surface or even set the container in ice, so the mix won't harden prematurely. And strong as they are, epoxies need a well-maintained coat of paint or varnish to protect them from the effects of sunlight

PHOTOS: CHRIS STEIN  
PHOTO: MICHAEL GRIMM

When the epoxy boom first hit in the 1970s, McGrath says, "The people using it in the head didn't fully understand the science. Twenty years later, the failures started to show up." In those early days of strong but inflexible formulas, gaps opened up when the wood moved and the epoxy didn't. Thick barrier coats, applied in a well-meaning effort to stop the intrusion of water, often trapped moisture inside the wood, where rot continued its work undisturbed. And hasty repairs made to wet or partially rotten wood didn't hold up. (Too much moisture prevents a good bond.) Also, users were cavalier about getting epoxy on their skin or about ventilating work areas, at least until they became victims of allergic skin rashes and chronic dermatitis. (Once hardened, epoxy is benign.)

It is now common practice to test the wood's moisture content (it has to be less than 18 percent), remove unsound wood, and prep the clean surface with a low-viscosity penetrating epoxy to insure a good bond with the thicker filler coat. And rather than encasing everything in the adhesive, savvy users leave sound wood exposed so that water vapor can move through freely. Wearing latex gloves and maintaining an ample supply of fresh air around uncured epoxy have become good-sense precautions. "Here at the Park Service, we're using epoxy as much as ever, but more wisely—we hope," McGrath says. "That magic bullet we all sensed back in the '70s is turning out to be real." ■

WHERE TO FIND IT — SEE DIRECTORY — PAGE 118



Epoxies can be dispensed and mixed in a variety of ways: 1. One push on the pump delivers an exact amount of resin or hardener. 2. Resin and hardener will mix 200,000 times before they exit the nozzle on this double-barreled caulk gun. 3. With a drill's help, a disk blends the two parts inside an epoxy-filled tube that fits into a regular caulk gun. But work fast: The epoxy hardens in about five minutes. 4. Resin and hardener form barber-pole stripes on this epoxy putty, which is mixed and spread by hand. 5. Syringe-type dispensers are ideal for small jobs.



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# The Pro File BRONZESMITH

BY HOPE HERNANDEZ

PHOTOGRAPH BY  
MICHAEL VENEZIA

**NAME:** Jerry Coe

**STUDIO:** Berkeley, California

**KNOWN FOR:** Being a blacksmith who works in bronze rather than iron, making products that range from simple garden lamps and fireplace tools to exquisitely wrought spiral staircases and dragon-flanked gates. He produces about 15 to 20 large pieces a year.

**WHY BRONZE?** Although demand for bronze is limited because it's about 15 times more expensive than iron, "I prefer to work with it because of its beauty," he says. "As an alloy of copper and tin, it has a soft color that changes with the light. And it lasts forever. You can throw it in the sea, come back 800 years later, and it'll still look good."

**FORGING HIS WAY:** Inside his studio, the 48-year-old craftsman works rods and sheets of bronze stock into functional art. As classical music plays, he heats the material to around 1,100 degrees Fahrenheit, until it's as soft as clay, then removes it from the oven with tongs or gloves and places it on an anvil. (Bronze heated to less than 1,000 degrees breaks like a cracker when hammered, hotter than 1,200, it oozes onto the floor like ice cream.) He hammers the bronze into shape, and then welds or solders the shaped pieces together to create the finished piece.

**WHO BUYS THIS STUFF:** People who "want to make a statement." Novelist Alice Walker ordered a 250-pound gate shaped like an art nouveau butterfly—the "bird of the soul," she dreamed—for her San Francisco estate. "For the super-detailed work I do," says Coe, "a finished job costs about \$1,000 a linear foot."

**HIS CLIENTS DON'T KNOW IT, BUT:** "They don't need to pay me," jokes Coe. "I have such a passion for what I do that can't wait to get to work. I don't need an alarm clock. I hop out of bed every morning and practically skip to my shop." Customers do, however, need to book him at least eight months in advance. ■

Jerry Coe fine-tunes a fireplace poker with an acetylene torch. Much of his bronze, stainless steel, and wrought iron graces the staircase of an Oakland, California, house.





## Winning the Property Tax Game

How to assess your assessment and appeal your tax bill



BY STEPHEN M. POLLAN AND MARK LEVINE

**M**ost people look at their property taxes as being etched in stone, but it's better to view them as written in pencil. The bill you receive in the mail is the local government's wishful opening bid in a negotiation. Treat it as such, by parrying with an appeal, and you'll be able to simultaneously cut your expenses and boost the salability of your home in the future.

Playing this game is more important than ever because property taxes are on the rise. As federal and state governments tighten their belts, they're reducing their funding of such municipal programs as schools. So cities and towns are under growing pressure to boost other sources of revenue. They have two primary options: sales taxes and property taxes. Since sales taxes are in the public's face every time it buys anything, they're political hot potatoes, few municipalities, therefore, charge sales tax, and those that do have a hard time raising rates.

It's much easier to collect money through property taxes because they're less obvious—the bills come only once or twice a year, and most home owners don't even see them since they're paid directly through their

ILLUSTRATIONS BY PETER HOEY

mortgage holder and amortized into their monthly payments. Plus, towns can increase property tax bills without actually raising the tax rate; property tax bills are determined by multiplying the rate by the *assessment*—the town's determination of the value of each property and the structures on it. All the municipality has to do is increase assessments and the bills will grow bigger—no vote to raise taxes, no articles in the local newspaper, just a larger pool of funds exacted from property owners.

Unfortunately for them, assessments are subjective and frequently murky calculations. An assessor might conduct a thorough inspection of the house, inside and out, or just take a cursory glance at a document recording the price paid when the property last traded hands. Then, depending on local practices and ordinances, the assessor may tax only a portion of the market value, calculating, for example, 70 percent of their appraisal or even something as bizarre as its 1938 replacement cost.

By ordering the assessors to be more aggressive in determining values, a municipality can substantially pad its revenues. Let's say

a community has a property tax rate of 1.5 percent, the national average. A home that's assessed for \$100,000 would owe a tax bill of \$1,500. If the assessment climbed to, say, \$120,000, the homeowner would owe taxes of \$1,800. That's a 20 percent increase without any change in the tax rate itself. This strategy for bolstering the coffers without political fallout is being practiced with greater frequency by cities, towns, and villages across the country.

Municipalities love any excuse to reassess property values. The sale of a house provides an opportunity to boost the assessment, as

does a renovation that increases space, adds amenities, or improves the physical condition of the home. If a house gains a fourth bedroom, for example, its value will then be judged by recent sale prices of other four-

bedroom houses in the neighborhood. So, any request for a building permit or a certificate of occupancy alerts the municipality of a chance to assign a higher value to the house.

With so many municipalities augmenting their revenues through larger assessments, there's also been an upswing in the number of home owners who appeal their tax bills. The national numbers

Nationwide, better than 50 percent of home owners who appeal succeed in getting a reduction. And in some states, fully 75 percent of people who appeal win.

you've found yourself,  
not so jokingly, referring  
to your children  
as, "my little deductions"



are still low—only 3 to 5 percent file an appeal each year—but many states are seeing record numbers of cases. New Jersey and Oregon are just two of a handful of states that have seen tax appeals double each year for the past five years. What's surprising is that more people aren't doing it. Nationwide, better than 50 percent of home owners who appeal succeed in getting a reduction. In some states the percentage is as high as 75 percent. In New York's Nassau County alone, taxpayers receive more than \$100 million in property tax refunds annually. The individual savings from a successful appeal vary widely depending on the situation, but in Illinois, a state that tallies such data, the average rebate from is a \$300 to \$400 cut in annual taxes.

Not only will winning an appeal put money back in your pocket, but it can increase the salability of your home. Along with data like annual heating costs, tax bills are listed on the realtor's information sheet about each property on the market. And all other things being equal, a buyer will choose a house with a lower tax expense.

Appealing your property taxes is as citizen friendly as small claims court, so it's usually okay to skip the lawyer. Most assessor's staffs will walk you through the steps for filing an appeal and obtaining the evidence you'll need to prove your case. Don't be afraid of

tipping your hand. This isn't an adversarial process. Tax officials, while placing the burden of proof on the home owner, are only looking to be fair. You'll generally start with an informal meeting with the assessment department, followed, if necessary, by a hearing in front of appeals officers. There's often a nonrefundable filing fee of between \$5 and \$25.

If, after receiving your tax invoice, you believe you have grounds to appeal your assessment, your first step should be to call the assessor's office (if you're in an area with multiple taxing authorities, say, a county and a village, contact both) and ask two key questions. When is the appeals period? And what is the process? There is probably only a short timeframe—often three to six weeks at the end of the calendar year—when tentative annual tax rolls

are published and are open for appeal. After that, the assessments are, except in rare cases, final. Procrastinate and you'll be out of luck until the next year's tax bills arrive.

What do municipalities view as viable grounds for an appeal? There are three basic reasons to request a reduction in your assessment: error, inequality, or equality.

**Error.** Assessors and their support staff are all too human. A surprising number of tax records contain miscalculations, clerical mistakes, and omissions. A house that's 1,500 square feet could be recorded as 1,700 square feet because someone hit the wrong key. Or, you could still be paying taxes on a garage you knocked down three years ago because the report your contractor filed on the demolition got chewed up by the assessor's fax machine. Bring records that prove the error and, if it's glaring enough, the assessor might even correct it on the spot, without a hearing.

**Inequality.** When it comes to assessments, fairness is what counts. If your home is assessed at a higher value than other properties comparable to yours, or at the same value as houses with luxuries (like an in-ground pool) that you don't have, you're not being treated fairly. And if you just bought your home for \$250,000 and find it's assessed for \$290,000, you certainly have a case. But don't assume that a recent drop in real estate prices should automatically be fol-

lowed by a drop in tax assessments, warns Richard Fromewick, an attorney who specializes in property tax appeals with Meyer Siozzi English & Klein in Mineola, New York. Officials, particularly in those municipalities that use 100 percent assessment, usually only look at values in three- to four-year cycles. Remember: Their primary concern is even-handedness; they're not worried about price declines as long as everyone's home is dropping equally and the taxation, too, remains balanced.

The success of your argument in front of the hearing board rests on your evidence, not your eloquence. If your home is assessed for more than you recently paid for it, bring copies of the purchase documents to prove the selling price, recommends Fromewick. If your assessment has been increased by more than the cost of

## IT'S THE ASSESSMENT THAT COUNTS

**Need proof that it's assessments rather than tax rates that count when it comes to property taxes? Just take a look at this chart, listing the U.S. cities with the top 10 highest property tax rates.**

Newark, New Jersey, may have the highest rate in the country, 4.02 percent, but when that's coupled with an assessment level of only 17.6 percent of market value, the taxes on a \$100,000 property come out to a minuscule \$708. Portland, Maine, on the other hand, has a significantly lower rate, 2.46 percent, but its 100 percent assessment policy would lead to a tax bill of \$2,460 on that same \$100,000 property. But even that pales next to another New England city: Manchester, New Hampshire, which is proof of what happens when you couple a high tax rate, 3.48 percent, with a high assessment rate, 113 percent. That adds up to an annual tax bill of \$3,932 for a \$100,000 property.

	TAX RATE	ASSESS LEVEL	TOTAL TAXES (ON \$100K)
1. Newark, NJ	4.02%	17.6%	\$708
2. Bridgeport, CT	3.96%	58.6%	\$2,321
3. Manchester, NH	3.48%	113%	\$3,932
4. Milwaukee, WI	3.32%	94.9%	\$3,151
5. Providence, RI	3.04%	100%	\$3,040
6. Des Moines, IA	3.95%	68%	\$2,686
7. Detroit, MI	2.76%	48.9%	\$1,294
8. Philadelphia, PA	2.64%	32%	\$845
9. Houston, TX	2.61%	100%	\$2,610
10. Portland, ME	2.46%	100%	\$2,460

Source: U.S. Department of Commerce, 1996 Squib



a recent renovation, bring along proof documenting your costs. (Technically, the market value of a home may increase by more than the cost of the improvement, but the assessor will often reduce the assessment.)

If your home is assessed for more than similar homes—based on location, size, and other “comparables” that you can get from your real estate agent—or those similar homes have recently had reductions in their assessments, bring copies of the tax records of those properties, and offer an opinion as to what your home's assessed value should be. These records can be obtained by going over the property rolls at the assessor's office. Note that neither appraisals, nor letters from real estate brokers, will suffice.

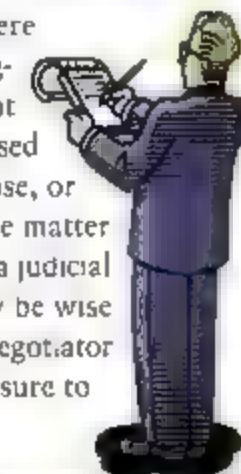
**Illegality.** If tax officials don't follow the letter of the law in determining your assessment—using the proper mathematical formulas for your zoning district, for example—you have grounds for appeal. Cases of illegality are the least common, and are the one type of appeal for which you may be better off hiring a lawyer, according to attorney Roger Cohen, a real estate specialist with

Warsaw, Burstein, Cohen, Schlesinger & Kuhl in New York City. You can get the names of attorneys who specialize in tax appeals from real estate brokers, your personal attorney, or the local bar association. Charges are usually on a contingency basis, Cohen

adds. You'll sometimes pay a flat fee up front for the lawyer's costs, often about \$100, followed by anywhere between 25 to 50 percent of the first year's savings. If you and your counsel lose the case, the only cost is the initial fee.

Whatever the reasons for your appeal, don't be surprised if the hearing officers reach a settlement somewhere between the original assessment and your proposed

reduction. If you aren't willing to compromise, or receive a negative judgment, you can take the matter to court. But because that would take place in a judicial setting, according to Cohen, you'd probably be wise to hire an attorney. Or you can be a gracious negotiator by accepting your partial victory. Just make sure to check your tax bill again next year. ■



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This master bath is in the former attic of a 1920 Cape Cod-style house. The owner wanted decorative fixtures and soft overall illumination that avoided the harsh lighting typical of many bathrooms. Architect Robert Gerloff chose nickel-plated contemporary sconces to flank the white-painted antique medicine chest. Their upturned frosted-glass shades send light onto the low white ceiling, where it's reflected back evenly on the person using the sink. Through careful placement—not too low or too close to the mirror—the sconces also spread a diffuse light directly onto the user's face but not into the glass, which is key to the successful use of uplighting here. Each fixture has a 50-watt halogen bulb, which the owner says provides so much light in the 10-by-10-foot room that she rarely turns on the incandescent fixture above the door. All the lights are on dimmers.

face itself. "Never shine a light on the mirror," insists Francesca Bettridge, a lighting designer with New York-based Cline, Bettridge, Bernstein. "Light your face, neck, and hair brightly and evenly because they are what you need to see."

The best way to create evenly distributed light in front of a bathroom mirror is through cross-lighting. "Put fixtures at eye level on either side of the mirror," advises Catherine Ng, of LightSmiths Design Group in San Francisco. That way both halves of the face are equally well lit without any unflattering shadows. An overhead light source, placed too far forward of the mirror or vanity, can also cause harsh contrasts on the face. "Be careful about using recessed downlights in the ceiling," warns Ng. "If they're shining directly on the top of your head they'll tend to create shadows under your nose, chin, and eyes, making you look tired."

Positioning light sources correctly is the first step. But an equally important element is the quality of the light itself. Bettridge often outfits bathrooms with both fluorescent and incandescent bulbs. "Ideally, they should be on separate dimmer switches so you can flick from one to the other," she advises. "That way, if you're going out for dinner, you can dress and apply makeup using incandescent light, which is warm, and similar to what's used in most restaurants. On the other hand, most offices use cooler, fluorescent light, so you can also check out how you'll look at work."

A third consideration is the color of the surfaces in a bathroom. White or pale shades will bounce light back to your face, while dark ones tend to absorb it. And vivid hues will alter the tone of your skin—and usually not in a flattering way.

Paint color can be changed easily, but it's more difficult to move a mirror or light fixtures once they're installed. So before you decide where to hang and how to light a mirror, here's a tip from New York designer Erica Miliar: Put up a piece of Mylar and you'll get a good idea of the lighting problems you're going to have to deal with.

BY BOBBIE LEIGH

## Upon Reflection

The art of lighting bathroom mirrors

A

mirror can enhance and enlarge almost any space. But if you're going to use it for shaving or applying makeup, the type and position of the lighting around it become the preeminent design elements to consider. To make a bathroom mirror effective, follow the universal law: illuminate the object that's being reflected and not the reflective surface itself.



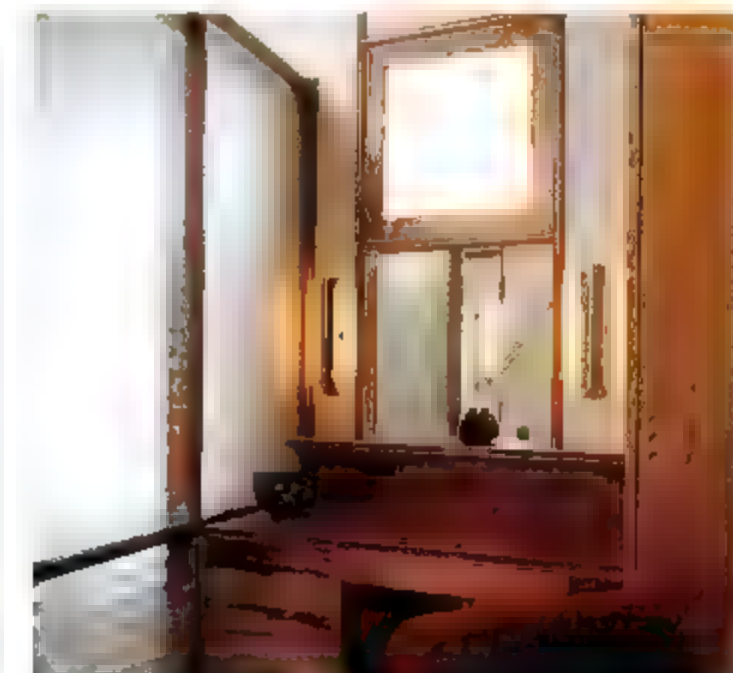
New York-based architect Anthony Cohn, of Swanke, Hayden, Connell, designed two complementary mirror treatments for this Brooklyn, New York, bathroom. **TOP LEFT:** The rotating oval vanity mirror, with 5x magnification on one side, sits on a matching dressing table in front of a north-facing window, which bathes the user in soft, even daylight but creates no glare in the glass itself. Two adjustable 50-watt halogen recessed ceiling lights provide ample illumination at night but are angled to avoid casting unflattering shadows on the user's face.

**BOTTOM LEFT:** For the opposite wall, Cohn designed a 30-by-60-inch Macassar ebony-framed mirror. Made in three sections, it has a fixed center panel with a medicine chest at each end. Cohn placed two 1930 French wall sconces with 20-watt incandescent bulbs on either side, more for decoration than illumination. The practical light comes from two 50-watt halogen recessed ceiling fixtures over the sink, again angled so as not to cast facial shadows. They're needed to counter the light from the window, which tends to turn the user into a dark silhouette against the bright background glare. Recessed incandescents at ceiling height provide ambient light.

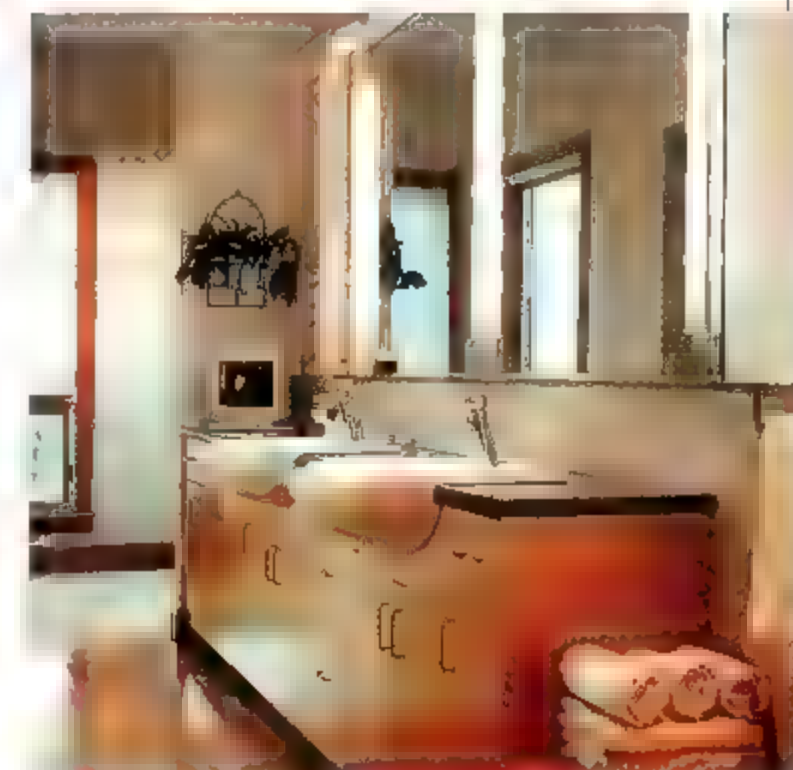


### UP CLOSE AND PERSONAL

The rim of this wall-mounted magnifying mirror by Nova is an incandescent light source, so no matter how close you get, you're always perfectly lit.



The window above the vanity mirror in this 1938 International-style house still has its original film covering, which filters out glare from the daylight and prevents "black-hole" syndrome at night by creating an off-white effect. Flanking the mirror are 11-inch 40-watt Lumiline bulbs—they're incandescents, although they look like fluorescents because of their shape—which cast an even light. A translucent glass wall with natural light behind offers soft illumination from the left. Day or night, the light here is gentle but always bright enough for using the mirror.



From a lighting point of view, this installation—four vertical 30-inch incandescent fixtures mounted directly on a mirror over a double vanity—is near perfect. Each strip emits 150 watts of illumination, shedding a strong but balanced amount of light on both sides of the user's face. The 75-watt ceiling-recessed halogens provide ambient light. The vanity is only 12 inches deep rather than the customary 24 inches, so a person can get an even closer view. ■

PHOTO: KAREN MELVIN

PHOTO (TOP AND BOTTOM RIGHT): KAREN MELVIN



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## Picture This

Virtual design software programs make house plans spring to three-dimensional life

BY CURTIS RIST

**H**aving lived in their Madison, New Jersey, house for more than a decade, Woody and Ruth Kerkeslager wanted to make some changes. They loved the front of the classic 1931 brick Georgian colonial but felt the back was all wrong. A mishmash of tacked-on porches and single-room additions, "It looked thrown together," says Woody, a consultant on the effects of future technologies.

Little did he suspect that the same technologies he discusses with his clients would dramatically affect the redesign of his own house. The couple hired architect William Kaufman of WESketch Architects in Liberty Corner, New Jersey, who created elaborate plans for enlarging the master suite and kitchen, adding two levels of screened-in porches, and building a glass-roofed conservatory. But to show the Kerkeslagers what the completed job would look like, Kaufman didn't rely on the traditional combination of blueprints, renderings, and cardboard models that architects have used for generations. Instead, he took a digital photograph of their house as it stood and—with the help of computer-assisted design software—grafted the entire proposed expansion onto the image. The result, when printed out, looked exactly like a snapshot of the house with all the additions in place—even though they hadn't been built yet. "It was like seeing a picture of the house already finished—and we loved it," enthuses Woody.

"As a consultant on trends of the future, I can definitely say that this is where architectural design is headed."

For years, simple software programs have been available that allow designers and even home owners to create very basic computer-rendered interiors that let them experiment with planning room layouts, choosing decor, and arranging furniture. Recently, however, powerful professional programs have emerged that lift house design off the drafting table and drop it squarely into the computer. And they're so realistic they're



*Virtual reality design tools "take the guesswork out of house renovation by giving home owners an accurate preview of what they're going to get," says architect William Kaufman, who took a photo of Woody and Ruth Kerkeslager's house in Madison, New Jersey (TOP), and digitally attached the proposed addition (ABOVE).*



changing the way architects and designers interact with their clients.

"Before, design was mysterious. You'd show home owners a set of flat blueprints that they couldn't decipher, and they'd basically have to take your word for how everything would work out," says Peter Cummings, of the Westmere Group, a Darien, Connecticut, design and construction company. "With this software, the plans, which are rendered three dimensionally, are so clear that clients can follow you every step of the way. They're literally able to look over your shoulder and become a much greater part of the design process."

The most sophisticated programs make it possible to create an on screen, three-dimensional house that can be walked through with all its interior and exterior detailing, decor, and landscaping in place. The home owners don't have to visualize anything or make any other conceptual leaps because everything is made concrete for them: the size, flow, and relative proportions of the spaces, even a feeling for the way the interiors relate to the exterior.

The power of these programs, which can cost \$10,000 or more to install, is instantly made apparent in Cummings's office. Sitting at a terminal, Cummings's associate Alfred McNeal gives a virtual tour of a golf clubhouse the firm is designing. Navigating with the computer mouse, McNeal approaches the building from the outside, steps inside, and "walks" through every room. As he does so, virtual outdoor scenery created by feeding digital images of the real site into the computer—swirls past the clubhouse windows. And not only does the view through any proposed fenestration appear but, as McNeal notes, "enter the longitude and latitude, and the program shows the exact angle the sunlight slants through the windows at any specified hour on any specified day of the year."

Dramatic as these computer walk-throughs are, they're too expensive for all but the biggest budgets. It might take two weeks to develop a virtual model for a 10-room house, says architect Kaufman, and can cost anywhere from \$5,000 to \$7,000, although "that's



**TOP:** A 3-D model of the kitchen in a large house that Rockefeller/Hrncak Architects of Venice, Calif., designed using ArchiCAD's Virtual Building program. "We can judge the quality of spaces we're creating, and get a sense of the material choices, quality of light, and of how you'll experience the house as you move through it," says Michael Hrncak. **ABOVE:** Peter Cummings of the Westmere Group in Darien, Conn., also used ArchiCAD to render his preliminary ideas for a complicated space—a kitchen/dining room viewed from a balcony—in 3-D. "I think in three dimensions," he says. "ArchiCAD works the same way. It allows clients to see inside my head."

about the same as having an architect build a three-dimensional model the old-fashioned way." Most home owners can't afford either.

But a computer visualization of the type that Kaufman used for the Kerkeslagers can give a startlingly real sense of what a house will look like, and costs no more than \$1,000 complete, once the design is finalized. These programs produce plans drawn in three-dimensional perspective that include such verisimilar touches as lighting shadows, or countertops and cabinets colored with digital photography of the actual materials to be used.

This degree of visual clarification can also help the architect identify design flaws that otherwise might only become obvious when the house is built. "When you're hand-drawing it's easy to sketch a roof that in reality won't align, or a doorway that has an opening too high to line up with the tops of the windows. And you might not find out until you reach the construction site," says Kaufman. "You can't make those mistakes

with the virtual programs: What you see is what you get."

That's also an advantage when working with contractors, particularly on complex jobs where it's not always apparent how some detail should be built. "If you can show them something as complicated as the roof traming absolutely clearly, with the tricky details in three-dimensional blow-up, then contractors won't make mis-

takes," says Kaufman. "And if they do, anybody will be able to spot them and have them fixed." This saves time and money.

To demonstrate a computer visualization program in action, Cummings closes the golf clubhouse file and calls up a residential project he's been working on. With a few clicks on a menu, the house begins to spin slowly on its axis; it even casts a shadow for extra lifelike effect. Clicking again, Cummings calls up a single element—a dormer—and focuses on its windows. From an on screen catalog of window styles and a paint chart, he's able to run through a dozen variations in fenestration and color in about two minutes. This capacity to explore design options ranges from small decorative details like the choice of moldings to major structural questions like the positioning of walls and staircases. "I could sit here and describe different options and how each one's going to look," he says, clicking away, "or simply have the clients slide over on a chair and see for themselves." And for those too busy to make office visits, Cummings e-mails the images to them.

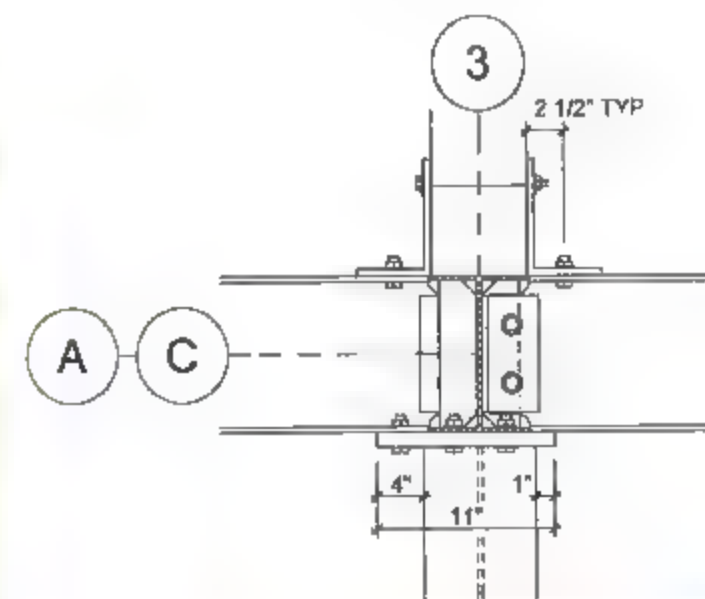
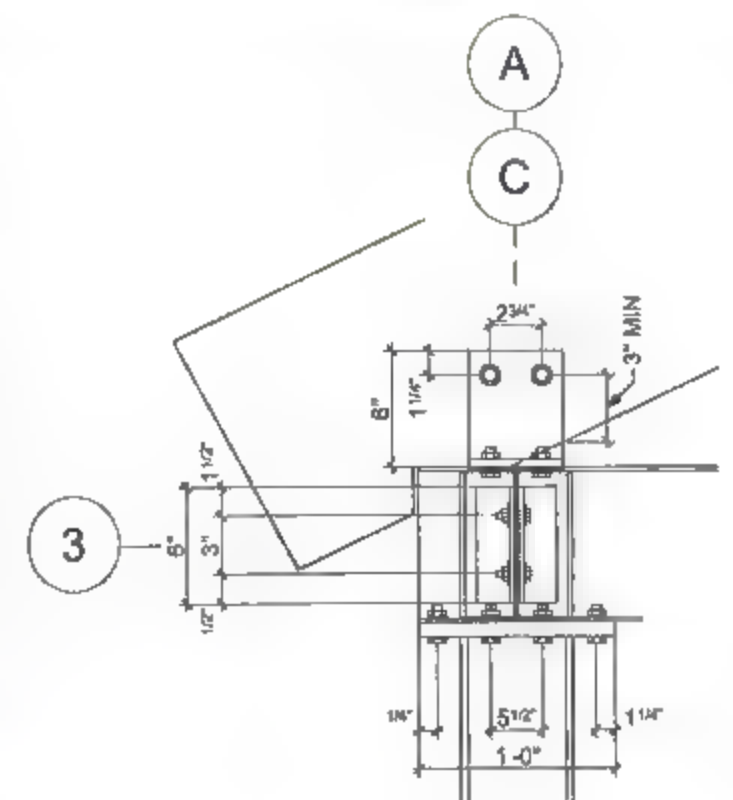
Steve and Anna Mark of Fairfield, Connecticut, found the capacity to detail things like siding and color particularly useful. "Peter Cummings's proposed plan for our historic house included natural shingle siding, which sounded nice," says Steve, "until we saw it on the screen. We went straight back to the original yellow clapboards."

Other clients, Fredric and Sandy Klink, were able to investigate a broad range of possibilities for their new house with Cummings's computerized assistance. They experimented with different sidings, added a glass solarium, changed it to a screened porch, then back to a solarium, and ultimately shaved 1,200 square feet off the overall plan. At the end of this process, they were able to compare all the options using vivid printed images of their house-to-be. "We felt free to change things because it wasn't

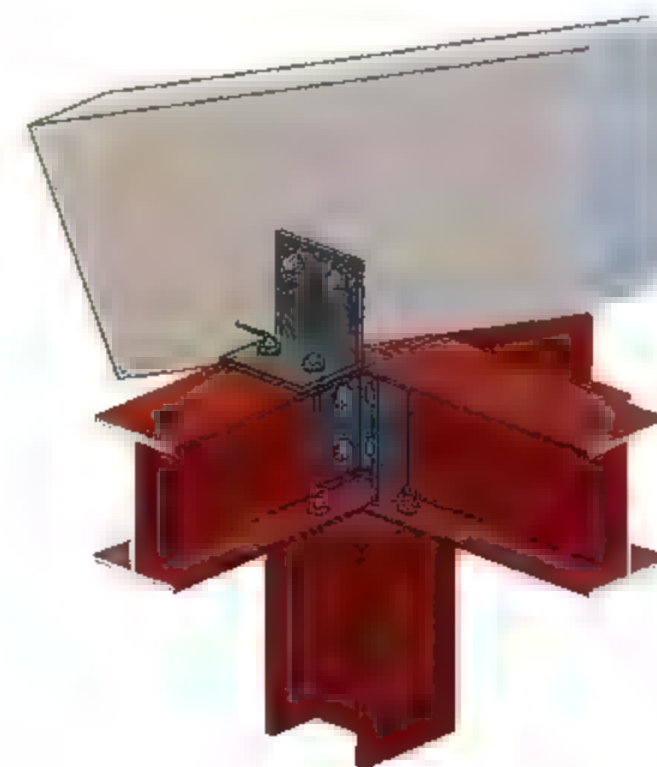
a matter of sending the designers back to the drawing board and incurring thousands of dollars in costs," says Fredric Klink. "Having looked at lots of different versions before making up our minds, we are certain we're getting the best house we can afford."

Despite its many benefits, in the wrong hands computer-assisted design could lead to a proliferation of poorly designed houses because it makes it easy for anybody who can master the software to plan a house—whether or not they have an equivalently developed sense of design. "Computer programs treat residential design as if it were a kit of parts, from which you select a set of windows, a type of roof, a few doors, put them together, and call it a house," says architect Gary Brewer, of Robert A M Stern Architects in Manhattan. "You might end up with a dream house, but then again, you might end up with a house that looks like it was created by Dr. Frankenstein." In short, he says, that elusive quality—good aesthetics—cannot be factored into the digital universe.

"At least," adds Cummings with a smile, "for now." ■



Conventional blueprints render construction details like these framing elements—a glulam rafter with steel column and beams—in a two-dimensional profile. TOP and plan (CENTER), which the builder must then interpret. ArchiCAD allows the addition of a three-dimensional model (BOTTOM) so there's no possibility of misinterpretation. "Everyone knows immediately where everything's going," says Cummings, "so there are no costly mistakes."





## Making a Splash

For year-round exercise and fun, nothing tops an indoor pool.

BY HOPE REEVER



**O**

ne morning in 1998, Dave Brown, the father of two teenage daughters, had an idea. "We're going to build an indoor pool," he told his wife. "At least then we'll know where the girls are."

Four months later, the Browns put the finishing touches on a spectacular addition that housed a pond-shaped pool with underwater stereo speakers, a babbling brook, a waterfall, a hot tub, a media room, and a sauna, all illuminated by multicolored fiber-optic lighting. "Our pool is filled with kids every Friday and Saturday night," says Brown, a real estate developer in Hampton Falls, New Hampshire. "And all the parents in the neighborhood are thanking me."

Besides being a kid's magnet, indoor pools are a dream come true for anyone who longs for private year-round swimming, free from the vicissitudes of weather and the chore of skimming leaves and debris. The people who like these pools inside fall into two categories, according to Brian Shook, president of Coastal Pools in Seabrook, New Hampshire, and the builder of Brown's pool. "Like Dave, most of my customers want an indoor pool for the sheer fun of it," he says. "Then there are those who need one for exercise or rehabilitation." The exercise pool is the straight-ahead simplicity of a lap pool, a sleek, 60- to 70-foot-long, one- or two-lane, wide fitness machine for the seriously sporty. "The best part of having my own lap pool," retired health-care consultant Laurence Simon of Greenwich, Connecticut, "was never having to wait for a lane to open."

Simple or plain, indoor pools usually require their own addition. "Some people put them in the basement," says Shook, whose pools range from around 45 by 30 feet to 25 by 60 feet. "But the majority of my customers add on, either with a solid wall structure or a glassed-in conservatory. Rooftops are another possible location, provided the house's framework is sufficiently beefy." A 3-by-60-foot lap pool holding 14,000 gallons of water weighs about 12

When building a second-time addition for a 10-by-50-foot lap pool didn't detract from the grace of this 1908 Dutch Colonial in Greenwich, Connecticut (right). The architect did a great job of integrating it with the house. —Lawrence Simon, a retired health-care consultant. "None knew me except me to exercise."



PHOTOGRAPH BY ANDRE BARROWER

Oh Lord, won't you buy me a

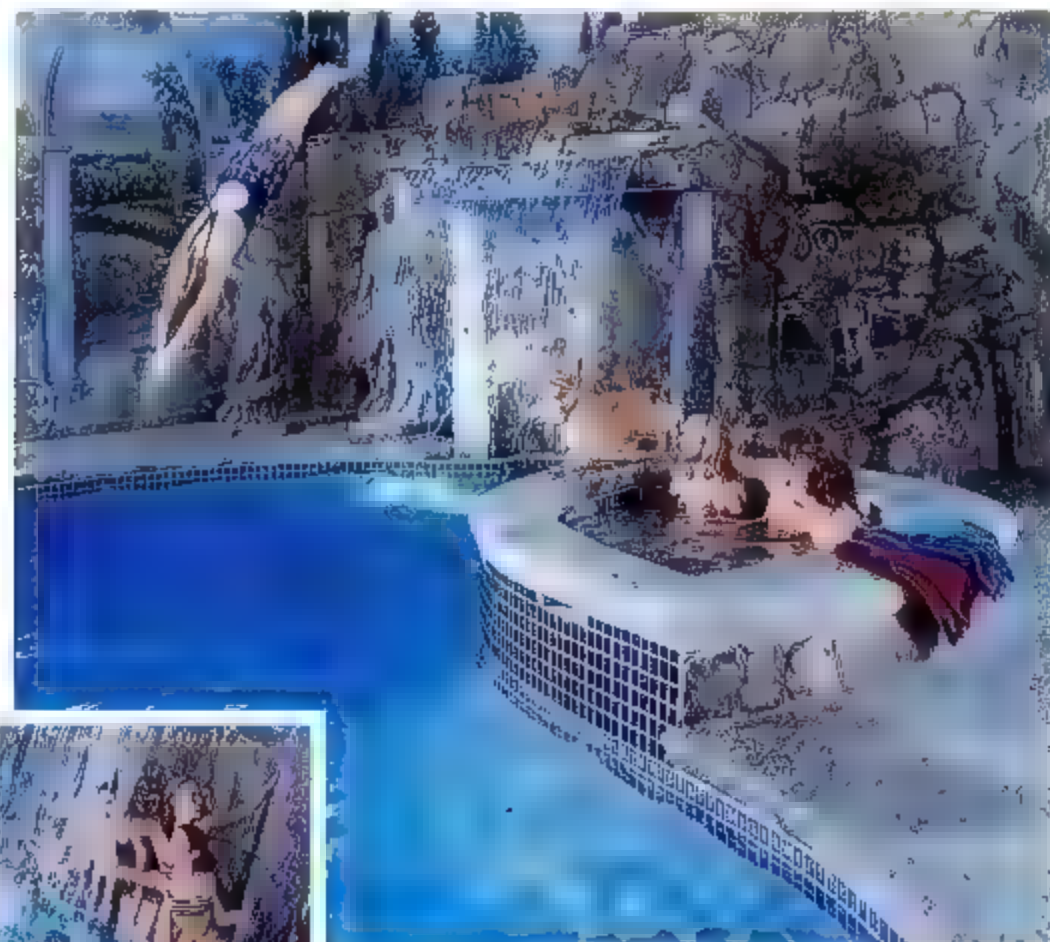
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my, my, what have we here?



**LINCOLN LS**  
LINCOLN AMERICAN LUXURY





Dave Brown's 28,000-gallon, free-form indoor pool, complete with waterfall and hot tub, provides hours of amusement for his daughters, Crystal and Alexis, and their friends, inset.



Once built, a pool room requires sophisticated climate controls to hold the humidity in check. The option Short prefers is the heat exchanger, which sucks out humid indoor air, as it draws in fresh, drier air from outside. (The exchanger also captures some of the stale air's warmth, saving on energy costs.) Refrigerant units remove humidity by wringing out water vapor with a cool coil, heating the air on its return to the room. Either system can keep the space comfortable—82 to 88 degrees Fahrenheit and 55 percent relative humidity—and mold- and bacteria free. The best installations blow the dry air onto the windows to prevent fogging. A simple vinyl pool cover will also help lower humidity, although a labor-saving motorized version can be had for \$9,000.

Nothing about owning a pool is cheap. An indoor pool built of reinforced concrete can cost anywhere from \$15,000 for a small, basic model to \$200,000 for a big one complete with the most elaborate equipment. Brown's pool is a good example of a deluxe model that, in addition to comforts like radiant-floor heating, has all the engineering and complicated plumbing necessary to support a high-tech system that automatically suctions any dirt off the pool's bottom. The complete pool cost him a cool \$180,000.

Of course, the excitement of having a dream come true sometimes fades, as MacLeod discovered. He still enjoys his pool nine years later, but admits he's started taking it for granted: "I used to think, 'If I had one, I'd swim every day.' Now it's more like once a week."

But new pool owner Dave Brown remains thrilled with his investment. "Watching all the fun my girls and their friends are having, I still get a shiver down my spine," he says. "Some people gawk at their Picassos. I put out a lawn chair, sit down, and admire my indoor pool." ★

tons, the equivalent of nine city buses. Such installations, done mostly in new houses, almost always require a support system of steel I-beams.

The biggest challenge facing any pool addition, however, is the humidity, which will foster mildew, mold, rot, and corrosion, if not controlled. To protect a room's framework, Short lines the interior of all walls with a 6-millimeter polyethylene vapor barrier—all edges overlapped and taped—and carefully seals the electrical outlets and light fixtures with squirts of urethane foam. "You should be able to turn your pool room upside-down without springing any leaks," he says. "Otherwise, the moisture will not only sabotage the room but eat away your whole house."

After the walls are sealed, there are several choices for cladding the room. According to Short, such moisture-resistant materials as tile, stone, or stucco can echo annoyingly in these large, enclosed spaces. Stable softwoods like high-grade Douglas fir or cypress do a better job of muffling noise. "I did my whole pool room in redwood," says Kevin MacLeod, owner of a Portsmouth, New Hampshire, conference center, and a client of Short's. "I love it, and don't go deaf every time I swim." Even drywall can be used, as long as it's rated MR, for "moisture resistant," and covered with an enamel paint.

#### A CURRENT AFFAIR

For water-loving folks without space for a full-size pool, there's the swim-in-place tank. This aquatic version of the Stairmaster pumps water at any speed desired, up to more than 100 yards per minute (a challenging clip for a strong swimmer). There are two types of tank: the jet-propelled swim spa, which shoots water through a bank of Jacuzzi-like nozzles, or the counter-current model (right), which creates a wider and deeper flow than the jets, making the swimmer feel as if he's in open water. "If you closed your eyes, you'd think you were in a regulation-size pool," says Endless Pools president James Murdock. "Except you never get to the wall." Murdock's 4-foot-deep galvanized-steel tanks are available in solo width (8 by 15 feet) for one person, double-width (13 by 15 feet) for couples, or extra-wide (9 by 15 feet) for people who swim using broad strokes. The pools can go almost anywhere, don't need any plumbing, and cost about 40 cents an hour to operate. The basic ready-to-assemble Endless Pool kit is priced around \$16,400.

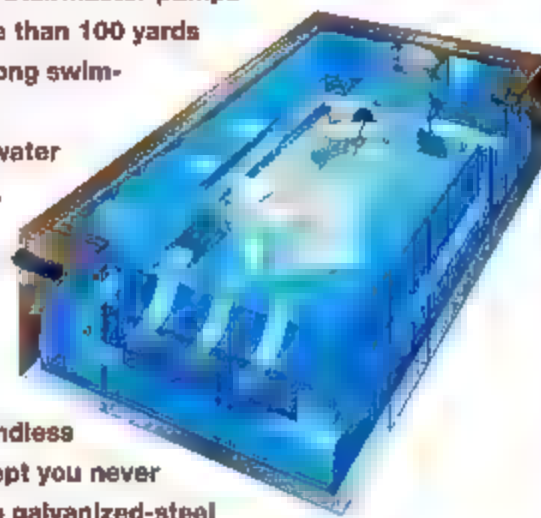


ILLUSTRATION: COURTESY OF ENDLESS POOL. PHOTOS: DAVID CARMACK

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BY PHIL PATTON

To reduce rubbing, the rotating handle on Felco's garden pruner moves along with the fingers as the hand clenches. The company is also one of the few to offer tools designed specifically for lefties.

"The best way to reduce the workload of a hand tool—or the vibration of a power tool—is to keep the saw blade sharp and the sandpaper fresh."

—NORM ABRAHAM

## Helping Hands

Ergonomic tools can reduce the Monday-morning pain of a weekend building project

**L**ike "fat free" or "made in America," the term "ergonomic" sells products. And for good reason. As baby boomers age, their joints and ligaments are at greater risk for such maladies as carpal tunnel syndrome and slipped disks. Those health concerns have driven the redesign of everything from keyboards to kitchen implements to construction tools.

Ergonomics (from the Greek *ergon* for work and *nomos* for law) is the formal study of how tools of all sorts can be made more body-friendly. The perfect ergonomic tool would be one that is tailored for the individual user, like a baseball player's personal bat. But until hardware stores begin offering custom-built hammers and drills, it's wise to test a tool before purchasing it. Reconfigured shapes, non-slip handles, and anti-vibration plastics reduce the trauma of "repetitive stress," as do efficiencies like a magnetic tip on a screwdriver. But more important than the tool is the user's technique, says Tom Armstrong, director of the Center for Ergonomics at the University of Michigan. "You can buy the best tool in the world," he says, "but if you stand on your head to use it, you're going to have problems." Keep your back and wrists straight and elbows at your sides. And pace yourself, especially if you're unaccustomed to the labor. Even the best tool can't protect you from overdoing it.

### ANCIENT ERGONOMICS

Ergonomics was first studied in the 1880s as a way to improve assembly-line productivity, but even in the 8th century, people were looking for ways to make tools easier on the body. That's when many European farmers switched from the sickle to the scythe to harvest grain. Rather than stooping over to swing the short shank of the sickle, the farmer could stand upright; grip the long, curved scythe handle; and sweep it back and forth to do the job.

PHOTOGRAPHS BY MICHAEL GRIMM

HISTORIC PHOTO: CORBIS

ILLUSTRATIONS: GREGORY NEMEC

The vibration of hammers and other equipment can leave their users feeling like Wile E. Coyote being jolted by a trap for the Roadrunner. Stanley's AntiVibe hammer can absorb the shock with a rubberized handle.

After winning an award from the Arthritis Foundation for the grips on their kitchen instruments, Oxo has introduced tools, including this easy-on-the-hand screwdriver.

"When lifting, people always try to muscle up heavy things with their backs, and that's why they have bad backs when they're 50. There's an art to lifting—bending the knees, keeping the back straight, and using the legs."

—RICHARD TRETHEWEY

Sandvik's Ergo pliers have spring-loaded handles that automatically open when the user stops squeezing.

### IT'S ALL IN THE WRIST

Bending the wrist while operating a power drill causes tendons to rub against bones "like ropes being pulled over the edge of a table," says Nicholas Warren, coordinator of the Ergonomic Technology Center at the University of Connecticut Health Center. Excess loading of joints has been associated with osteoarthritis, and strains muscles and tendons, because they have to work harder to grip the tool. "Whenever possible, try to operate tools in the 'strike zone' between your shoulder and waist," Warren says. "Use a step ladder instead of reaching up; sit on a stool instead of reaching down."

#### WRONG Ulnar deviation of the wrist



#### RIGHT Neutral wrist position



#### WRONG Radial deviation of the wrist



"Holding a board while you cut it can strain your hand and arm and put it at risk for injury. Wherever possible, use a clamp to do the job."

—TOM SILVA

Red Devil's Ergo 2000 tools have bulbous handles made from non-slip polypropylene to reduce hand fatigue and blistering.

The Ames Snow Boss shovel's handle is bent so you can stand straighter when you lift loads of snow, and its wide grip accommodates thick winter gloves.

### For More Information

- [www.ergoweb.com/pub/ewhome.shtml](http://www.ergoweb.com/pub/ewhome.shtml) ErgoWeb offers product listings and updates on legal issues about ergonomics regulations.
- [www.engin.umich.edu/dept/loe/c4e](http://www.engin.umich.edu/dept/loe/c4e) The University of Michigan's Center for Ergonomics website includes links to dozens of on-line resources about ergonomic tools.
- *An Ergonomic Guide to Hand Tools* Available from the American Industrial Hygiene Association, 703-849-8888, stock number 203-ER-95.



## Instant Replay

Personal video recorders let you freeze and rerun broadcast television action

BY CHRIS O'MALLEY

**E**very Sunday this time of year, it happens. I'm watching afternoon football and, just as my beloved Miami Dolphins push the ball downfield, the doorbell rings. Muttering condemnations, I sprint to the door where someone's wanting to chat. By the time I return, a player's scored, and I'm steamed. If only my TV set had a "pause" button, or maybe an "instant replay" feature. The good news is: Now such things exist. A newly developed set-top box, loosely dubbed a "personal video recorder," will not only record a broadcast but also freeze it or replay any part of it at any time and still go on recording. Unlike a VCR, a PVR doesn't "tape" programs, because it has no tape. Instead, it saves the TV signal (whether broadcast, cable, or satellite) digitally to a hard-disk drive (like that of a computer), and then, at the touch of a remote-control button, replays the stored programming. The most compelling advantage this system has over tape-based devices is that it can record and play back simultaneously, which means you can instantly retrieve the three minutes of *Ally McBeal* you missed when you were in the bathroom. And you won't

lose any other part of the show while you do so since you aren't interrupting the recording process.

This capability is so new that it boggles a mind accustomed to the limitations of TV watching. Think of it this way: The next time a friend calls during an episode of *This Old House*, you could press the "pause" button on the PVR remote and freeze the picture. Hit "play" when you return, and the show picks up right where you left it, whether it's two or 22 minutes later. If you forget to touch "pause" before leaving the room, simply hold down the "back" button until you reach the point in the show at which you left, and start playing from there. And since, technically, you're skipping from one part of the hard disk to another and not rewinding tape, moving backward and forward is extremely rapid.

But it's not just a recording box you're getting when you buy a PVR—you're also acquiring a programming service. These revolutionary video machines connect to the Internet via a phone line to download electronic TV program guides, which appear on-screen like the guides used by satellite broadcast systems. The remote control is used to traverse the programming displays and instruct the PVR to record chosen shows. (It's even possible to get the machine to automatically record episodes of favorite series whenever they appear.)

The process is far simpler than recording with a VCR, and it's virtually foolproof. There's no videocassette to forget to insert and no tape to run out or get tangled. And, by way of the Internet link, these electronic guides will automatically make adjustments in the PVR's recording schedule when, for example, the afternoon football pushes back the start of the following show.

And there's another big plus: Personal video recorders capture TV programs in their native picture quality, whether they're broadcast over the air, delivered by cable, or beamed to a satellite dish. So the picture looks much better than that produced by a VCR, which typically records at only about two-thirds the picture quality of broadcast or cable TV, and half that of satellite.

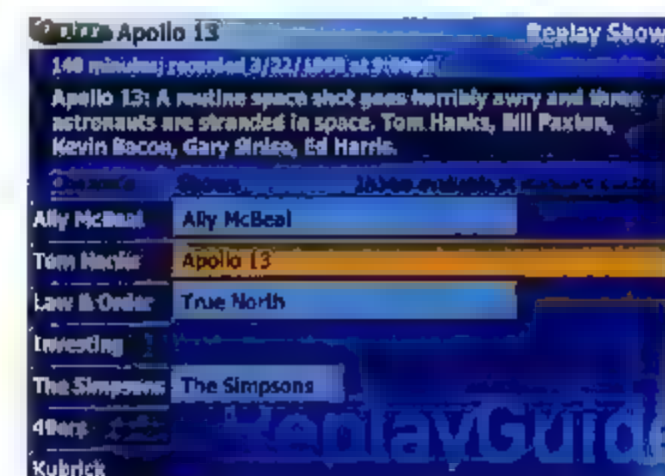
What's the catch? Well, there are several. First, because PVR technology is fairly new—it's been independently developed within the last year or so by two small Californian companies, Replay Networks Inc. and TiVo Inc.—the units are pricey, at least compared to VCRs. (TiVo is sold now under the Philips brand and will be available from

Sony this spring. ReplayTV is now available through the Internet and will be sold under the Panasonic brand later this year.) ReplayTV lists for \$699, including the electronic program-guide service, which Replay Networks builds into the cost of the machine, while TiVo offers a \$499 box plus another \$199 for "lifetime" service, or the option of paying a \$10-per-month subscription fee instead. These price tags might be easier to swallow if you never had to buy another VCR or a digital videodisc (DVD) player. But a PVR doesn't really replace either, because it can't handle prerecorded movie tapes or discs. It can only save and play back what's been transmitted on broadcast, cable, or satellite television.

And since they rely on internal hard drives, PVRs come with limited recording capacities. The basic Philips/TiVo model can hold up to 14 hours of programming before it begins overwriting previously recorded shows. (The company also sells a 30-hour model for \$200 more.) The ReplayTV model has a 20-hour capacity. While either type can be connected to a VCR and the recorded content transferred to regular videotape, there will be an associated loss in the quality of the image.

PVRs enhance television watching in other ways, and although the TiVo and ReplayTV systems are more alike than different, they do have distinct features. The ReplayTV unit has a "Quick Skip" button on the remote that kills commercials by jumping forward in 30-second increments right over the ads. The TiVo-based recorders have buttons that let you rate programs "thumbs-up" or "thumbs-down," and the system then suggests other shows you might like—a dubious feature, perhaps, since it's a fair bet you don't need much help deciding what you like on TV. (TiVo assures subscribers that their viewing preferences won't end up in some marketing database.)

So do you really need to buy another box for your TV? If you want the unique benefits of a personal video recorder today, you do. But there's a good chance we'll see this technology built into cable boxes, satellite receivers, DVD players, and even television sets themselves over the next few years. In fact, Hughes's DirecTV division plans to incorporate the TiVo system into a new satellite receiver by mid year. There'll be quite a few Sundays before then, however, and adding "pause" and "instant replay" buttons to my remote control is a pretty compelling argument for getting the jump on the next generation of TV viewing. ■



PVRs aren't simply boxes that record television shows; they're also sophisticated programming devices. Through a phone connection to the Internet, they download on-screen guides to broadcast, cable, and satellite TV, which the user can navigate by remote control. A screen from the ReplayTV guide appears above, one from TiVo below.



SCREENS, FROM TOP: REPLAY NETWORKS INC.; TIVO INC.

PHOTOGRAPH BY BRUCE WELLER



## When Pests Are Guests

Putting the wildlife back in the wild

BY COLLIN PERRY

**M**uch to the satisfaction of its owner, the graceful gambrel roof of his Dutch Colonial in Teaneck, New Jersey, drew enthusiastic reviews from passersby. But when the deep eaves began attracting attention from animal admirers, his pride turned to desperation. "The squirrels would stand in the gutters and nibble through the fascia," he recalls. "I had squirrels in my attic, squirrels in my living room, squirrels nesting, squirrels having babies." Given the magnitude of his problem, the home owner—who shall remain nameless—had no choice but to launch a full-scale campaign against the invaders.

Such turf wars have become widespread because suburban tracts from New Jersey to California are steadily encroaching on wildlife habitat. "The animals have fewer places to nest and forage," says Dr. Harold Harlan, a biologist with the National Pest Control Association, in Dunn Loring, Virginia, "so they come to our houses seeking food, water, shelter, and—in wintertime—warmth." The most common intruders by far are mice and rats (see *T.O.H.*, November 1998), but many other animals, from pigeons to snakes, will make themselves comfortable in houses if given the chance. Beyond the unpleasantness of noise and odors, these animals can damage buildings and may carry disease.

Even for the handiest home owner, evicting animals calls for professional help. Pest control experts will identify and safely remove the offenders, as well as spot and seal their entry points. Safe



handling is critical: "The most vicious animal I've ever seen was a squirrel in a trap," says Harlan. "It had bloodied its nose slamming against the cage, it was growing like a dog, and it wanted a piece of me." Professionals know how to protect themselves from such dangers as bites, rabies, and snake venom. Plus, they know the legal issues that can catch home owners unaware, such as endangered-species protections and prohibitions against transporting live wildlife. Their approach to eliminating pests depends on the types of critters involved and why they've come.

**Squirrels:** Animals that nest in homes wreak the most havoc since they use pieces of houses to build nests. "A squirrel's teeth are constantly growing, like fingernails," says Jeff Andrews, of Liberty Pest Control, in Middletown, New York. "So they have to continuously gnaw to wear them down." They'll chew through wood and wiring, and even plumbing. When an unfortunate squirrel investigated a transformer recently in Elizabeth City, North Carolina, it caused a blackout, and the NASDAQ stock exchange twice shut down for several hours after squirrels chewed through data transmission wires. In houses, some 50 percent of unsolved fires might be caused by squirrels nibbling wires.

A pest control professional will trap and "dispose of" the squatters. "Once squirrels have established a nest, they don't give it up," says Andrews. "You can seal up the openings where they get in and out, and squirrels will chew a new hole through a wall to get back in. You have to remove them permanently."

Home owners frequently want captured wildlife carted away and released into nature. Bad idea. "In many areas, there are laws against transporting live wildlife. They must be euthanized," says Pat Vissering, a senior wildlife biologist with the New York State Department of Conservation. "This is more humane because trapping and releasing an animal often dooms it to starve in an unknown territory." Or the animal may return to reinfest the house. "I have heard of squirrels finding their way back from 10 miles away," she says.

Once the house is squirrel-free, it's time to seal the exterior shell. Common problem areas are eaves, soffits, cornices, and entry points for wiring and pipes. Loose flashing and siding should be repaired, small cracks caulked tight, and large holes filled with wood, sheet metal, or wire mesh. All vent outlets for dryers, bathrooms, and attics should be covered with metal screening or hardware cloth, and chimneys capped.

It's also important to remove temptations that attract squirrels, such as bird feeders, and eliminate their tightrope highways—overhanging tree limbs and utility lines. Cut branches to at least 10 feet away. And try making the journey across wires tougher. Slice a two-foot length of PVC pipe along its length and slide it over the wire. When a squirrel attempts to cross it, the tube will twirl and the squirrel will lose its balance.

**Bats:** Although they don't gnaw houses to shreds, bats can carry rabies, and their droppings can stain walls and ceilings. Many people try floodlights, attic fans, and ultrasonic devices to chase bats away,

To rid a house of bats, an expert stands outside at dusk, watches the bats leave for their nocturnal feeding, and then hangs hardware cloths over the exit spots. Pinned from above on the exterior, these permit the bats to push through when leaving, but prevent them from entering. After they depart, a meticulous sealing with caulk and small-mesh screening is in order.

**Birds:** Although birds rarely come into a house, they may nest or roost on them. Small birds, like starlings, house finches, and sparrows, prefer gutters, chimneys, and eave brackets. Removing the nest and sealing up the cavity or filling it with wire mesh will usually discourage them. But bigger birds, like crows, seagulls, and pigeons, are not going to be shooed away by nest removal or plastic owls. Better are products like Nixalite ("porcupine wires") and Bird-Proof Gel that make roosting on horizontal surfaces impossible.

**Occasional Visitors:** It's easier to discourage animals that make only rare forays into houses—a snake

needing a rough stone to slough off its skin, a woodpecker hammering on an old porch column, or a raccoon squeezing through a screen door in search of a meal. Home owners can limit access by keeping firewood away from walls, making sure decks have heavy screening buried a foot into the ground, and repointing aging foundations. Equally crucial is eliminating the reason most creatures come indoors—food. Snakes may follow rodents into basements. Skunks, opossums, and raccoons—which account for half of New Hampshire's animal-control complaints—are lured by garbage or dog food; skunks and woodpeckers by insects. Get rid of the meal and the visits will end. Never approach a wild animal yourself, though, even if it appears passive. If these steps don't eliminate the problem, call a professional to remove the animal.

Which brings us back to the home owner in Teaneck who trapped squirrels himself. He couldn't bear to kill them, so he took them to the woods a few miles away (spray-painting

their tails so he could recognize any returnees and transport them farther away). After the illegal transport of 50 squirrels, he finally eradicated the colony that had lived under his roof. Today, he is in hiding, but his kingdom is peaceable. ■



"You can seal up the openings and squirrels will chew a new hole through a wall to get back in. You have to remove them permanently."

—JEFF ANDREWS, LIBERTY PEST CONTROL

Harlan says. "Bats notice them, but tend to ignore them." Naphthalene or moth balls are more effective at discouraging them, but many people, too, find the smell repellent. The best approach is to seal them out, which isn't easy since they can squeeze through dime-size holes.



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## the details

BY LIZ SEYMOUR

### JOIN THE CLUB

Sturdy yet well-padded, the classic club chair is an invitation to sit and stay awhile. Shorter than a wing chair, deeper than a slipper chair, roomy enough for slouching but dressy enough for all but the most formal rooms, the chair owes its success to a subtle interplay of proportion and geometry. The arms, the right width for easy resting, sometimes sweep in a curve. Backs are moderately pitched, cushions boxy and firm, with a little give for relaxed sitting.

The club chair's form was, perhaps more than most furniture, dictated by function. Its story begins in Vienna in 1822 when the invention of the modern coil spring encouraged manufacturers to plump up their upholstery. By the 1890s, button-tufted "smoker's chairs"—some with built-in spittoons—appeared in the men's clubs of London and New York, where their low profile made socializing easier. A classic was born.

Despite its 19th-century pedigree, however, the club chair proved anything but stuffy, as Frank Lloyd Wright showed in 1916 by blending Victorian expansiveness with modernist angularity in chairs for a Tokyo hotel. In the '20s, Art Deco styling added a dash of streamlined glamour to solid lines. And while designers continue to refine and update the look, it is the club's retro status and compact shape that have made it a fixture everywhere, from family rooms to swanky martini bars.

Leather is the upholstery of the moment, but other materials (mohair, velvet, tapestry, chenille) have their place on the club roster, too. Some new designs combine several fabrics: leather on the arms, perhaps, and mohair on the cushions. Priced from \$1,000, the typical club chair isn't cheap, but its rugged construction and ageless good looks guarantee that it will be around for a long time.



Italy's Poltrona Frau reproduces the sleek Deco-style Vanity Fair chair from its own 1930 design catalog. Though it looks thoroughly modern in racy red leather, inside is another story: Following traditional upholstery techniques, the frame is padded with horsehair and the seat cushion plumped with soft, yielding down.



## the details



Designer Thomas O'Brien borrowed the crisply tailored style of 1930s modernism for his new Hickory Chair collection. Set on slightly recessed feet, the club chair (ABOVE) seems to float a few inches off the floor.

Palecek's Argentina club chair and ottoman (BELOW) are covered in a stylish fabric-and-leather combination. The ottoman provides extra seating or serves as a handy table.



Covered in buttery-soft leather, the cushy Romeo club chair (ABOVE) from Mitchell Gold invites repose. The chair is generously proportioned, with an extra-wide front and very deep seat cushion.



As elegant as a piece of sculpture, the Serpentine chair (ABOVE) by Donghia is named for the sinuous curve along its front rail. Extended arms and a deeply angled back lend the minimalist design an extra measure of comfort.



With its rolled arms and sturdy feet, Broyhill's nostalgic design (ABOVE) is reminiscent of fireside chairs found in Edwardian libraries. Self-welting on the deep t-shaped cushion and the arms accents its classic shape.

Milling Road's nicely rounded Victorian club chair (BELOW) is built for old-fashioned ease. It features melon-shaped curved legs with brass casters on the front feet, making it easier to draw up for intimate groupings.



## SKIN CARE

Leather—always a popular choice for upholstering club chairs—is a tough, natural material that looks better with age, but it is not completely maintenance-free. To keep the leather on your club chair looking good, follow these tips:

- Dust can wear away leather like sandpaper, so vacuum or wipe the chair regularly with a dry dust rag. For extra insurance, clean around hard-to-get-at spots with a soft paintbrush.

- Leather doesn't need waxing; in fact wax or saddle soap will only clog its pores. Clean off any grimy buildup with warm water and a mild face soap. And stay away from cleansers containing ammonia or abrasives.
- Most leather is treated with a stain-resistant finish so you can wipe off all but the most serious spills. The exception is buttery-soft leather, which has very little protective coating; it's best reserved for pet- and child-free environments.

## the details

### The Guts

A lot goes on inside a club chair, all of it designed to create classic good looks and exceptional comfort. Materials are often the same as they were a century ago, but thanks to modern enhancements—man-made yarns blended into canvas webbing for strength, rubber to protect horsehair padding, oils and waxes to toughen flax twine—these natural ingredients are now more stable and enduring.



### BUYING TIPS

There's nothing easy about an easy chair. A good club chair is built up of layers of cushioning over a sturdy frame of kiln-dried hardwood (like slow roasting, kiln drying bakes out moisture that could cause wood to warp or split) held together with glue and dowels. Top-of-the-line upholstered furniture has seats made with eight-way, hand-tied springs, a traditional process by which coil springs are anchored in place with a web of manually knotted twine. But the fact is, modern "drop-in units"—prefabricated structures in which the springs are wired together rather than tied—probably offer just as much bounce and durability. The chair's frame is simply wrapped in thick sheets of batting; the seat cushion is a more complex sandwich of materials, and shows its age sooner. The most luxurious cushion is down-stuffed; a firmer alternative is a coil-spring unit wrapped in down. Less expensive—and much more common—are cushions made of dense polyurethane foam wrapped in polyester fiberfill or better yet, feathers. Springed

cushions will last as long as the fabric holding them together; feathers will crush after 10-12 years; foam with feathers might last 10-15 years; all foam, 5-8 years.

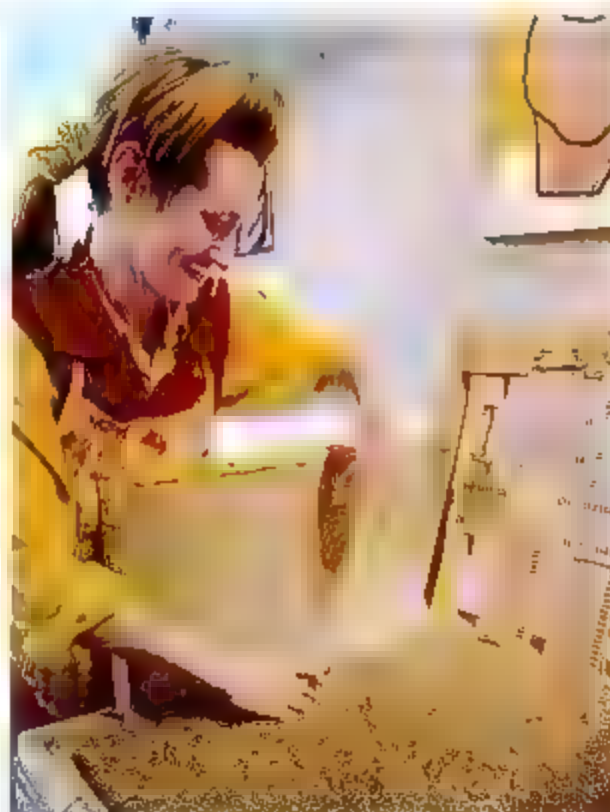
- The differences between chairs are subtle and subjective. As Goldilocks knew, it's worth giving the chair a test-drive first.
- Don't just sit on the chair; lounge in it. If the fit is right, your feet should rest on the floor. Run your hand along the front of the cushion while you're sitting to make sure it is still firm.
- Check the seams. They should be well-stitched, with no pulling or puckering. If the upholstery is carelessly made, you can be pretty sure that corners have been cut on the interior construction as well.
- Lean on the chair from behind and give it a shake. It should feel solid, with no squeaks or groans.
- Squeeze the front rail, arms, and back rail to make sure they are adequately padded. It should have give but shouldn't shift.



## THE OLD WORLD IN HER HANDS



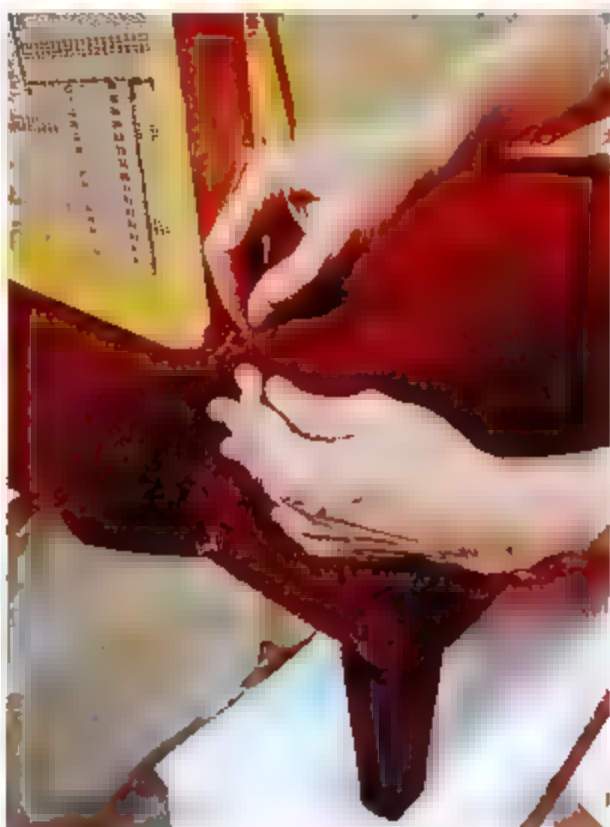
A '50s style chair, stripped and ready for a complete makeover. New, natural canvas webbing is attached to the hardwood frame. Coil springs—secured to the webbing and tied by hand to each other with a heavy flax or jute twine—give the seat its basic shape and durability.



Upholsterer Raken Zielinski secures a layer of rubberized horsehair padding—prized for its durability, resilience, and comfort—over the burlap-covered springs. Long ago, furniture was padded with loose horsehair curls clipped from the animal's mane or tail.

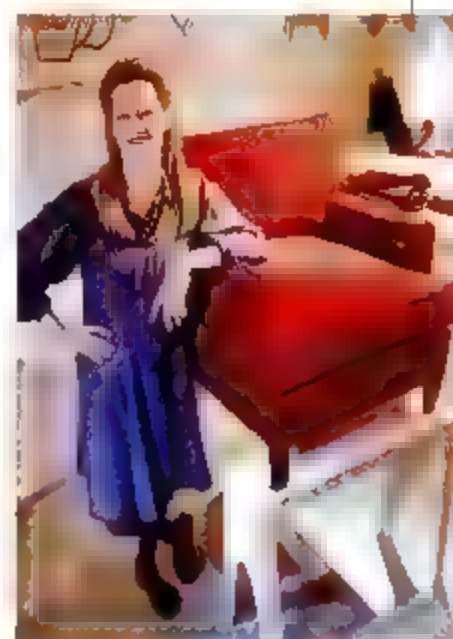


Layers of cotton batting are added for final shaping. Even after years of use compact the cotton, it still allows air to circulate through the piece. Zielinski tacks a layer of muslin over the stuffing to secure it in place and relieve unnecessary strain on the upholstery fabric.



The chair gets a stylish new shell made of wool mohair with reinforced backing. Zielinski uses staples, tacks, and a needle and thread to attach fabric to frame. A cushion of 2-inch, high-density foam wrapped in down and feathers goes on top. It usually takes Zielinski about a week and a half to complete the job.

Raken Zielinski may have been born in Detroit, but her skills as an upholsterer can be traced back to Poland, where her uncle and great uncle learned the trade before emigrating to Michigan and setting up shop. As a child, she'd often visit their business. "I always had a job," she remembers. "At first it was sweeping the floor, but eventually I got to cut my own fabric." Zielinski, 45, moved to New York in 1981 to study fashion at the Parsons School of Design, but decided not to pursue a career in fashion. "Still, I learned pattern making, tailoring, and everything about fabrics," she says, "all of which I'm very glad for now." She started making drapery but found the traditional upholstery crafts calling her back, 14 years ago a friend asked her to refurbish a set of dining chairs, and Zielinski was hooked. "It all came flooding back to me, everything I learned in my childhood. It was that natural."



Zielinski's tiny one woman shop in New York's East Village, which goes by her lifelong nickname, Raken Leaves, is decorated with paintings by her husband, Julius Klein, an artist and woodworker who restores the frames of the furniture she upholsters. "With every piece I take apart, I learn something about how it was put together, and that determines the style in which I'll recover it," she says. "I respect the history of the furniture, thinking about who worked on it in the past and who'll work on it in the future. My family trained me to think that way."

Zielinski inherited her uncle's set of tools when he retired, and she uses them everyday. Within a year, she and her husband plan to open a bigger upholstery shop where they'll also be able to make their own furniture. "We'll do custom-made pieces," she says. "Julius has a great sense of design, and even when I don't know how at first to execute one of his concepts, we always find a way to get it done." ■

— BY ROMY POKORNY

PHOTOS: WILLIAM VAZQUEZ

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# LETTER FROM THIS OLD HOUSE

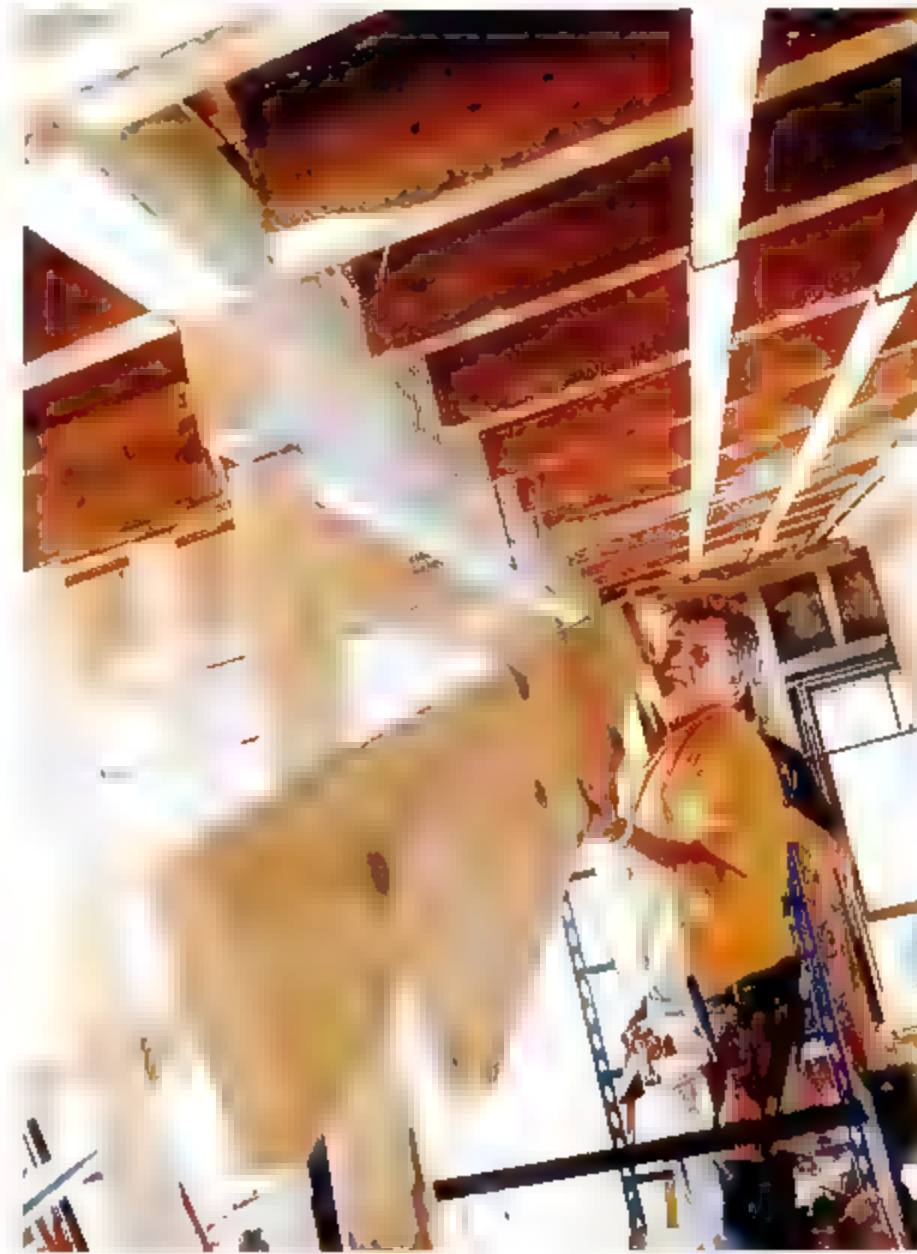
## Nailing It

Long before a TV show called *This Old House* existed, I made it my mission to renovate old houses that I hoped would last forever. I had to. As an apprentice I had a relentless teacher—my father, Phil. An ex-Navy man (who still shows up on Silva Brothers' jobs most days even though he's 80), he taught me never to take shortcuts when working on houses. "A house is a person's biggest investment," he'd say. "Work on it the way you'd want somebody to work on yours."

I took this advice seriously. Even on my first job—framing an addition in Lexington, Massachusetts, in the 1960s—this golden-rule approach attracted attention. With my father supervising from below, my brother Dick and I used the highest grade lumber available, and made each rafter connection as clean and tight as possible. We worked methodically, never racing through the job just to get it done. Observing our progress, the architect asked if we'd ever been Seabees (that is, part of a U.S. Navy construction battalion, or CB). No, I told him. "Well, that's something," he said. "Because the way you frame a roof is how the Navy builds bridges."

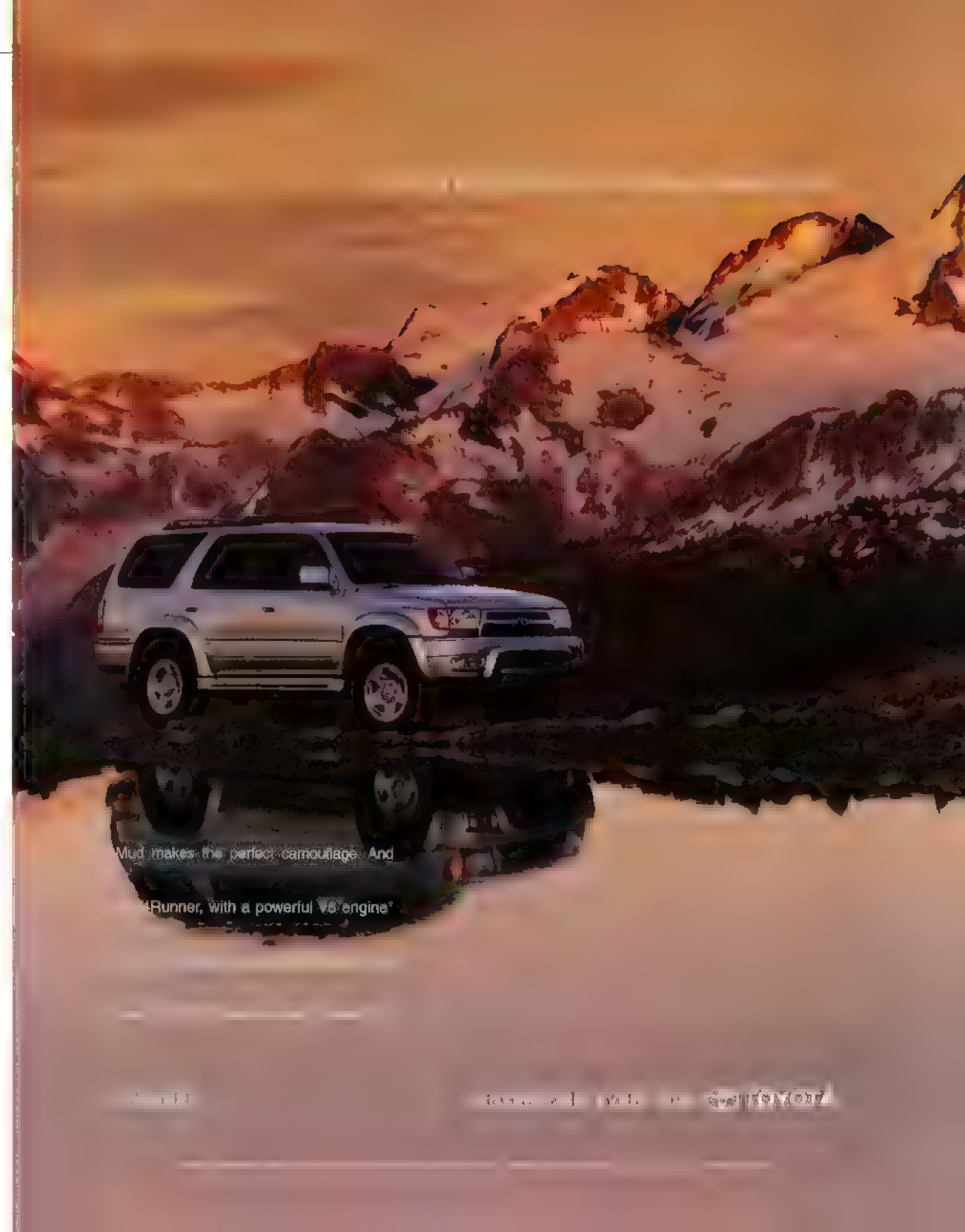
I took that as a compliment, and I've never changed my style. Whether I'm building a house or renovating one, I treat it as if I were going to live there. When people ask me for something fancy—like granite countertops or crown molding—I look at their budgets, and more often than not tell them I can't give it to them without sacrificing something crucial, like a good roof. I prefer that they park their dollars elsewhere: a sturdy house to which they can add over time. Pretty, decorative touches don't make a house substantial, but the bones beneath those products sure do. If I use cheaper plywood, or skimp on the floor joists, people will wind up living with doors that don't shut right, corners of the walls that crack, and floors built so flimsily that coffee cups jiggle on the kitchen table when someone walks by. Eventually, they'd hate coming home, and the house that was supposed to give them so much pleasure would give them nothing but headaches. Now where's the savings in that?

So go ahead, dream about the cherry floors and the walnut cabinets. But know that those things can always be added later. Your priority should be a solid foundation, a strong framework, and good mechanical systems—things that can't necessarily be upgraded in the future. As the years go by, you'll find that nothing's as beautiful as a well-built house. ■



*This Old House's contractor since 1986, Tom Silva has adhered to the same building philosophy since his teens: "Use good stuff rather than cheap stuff. And spend your money on the things that'll make you the most comfortable in the long run."*

BY TOM SILVA PHOTOGRAPH BY KOLIN SMITH





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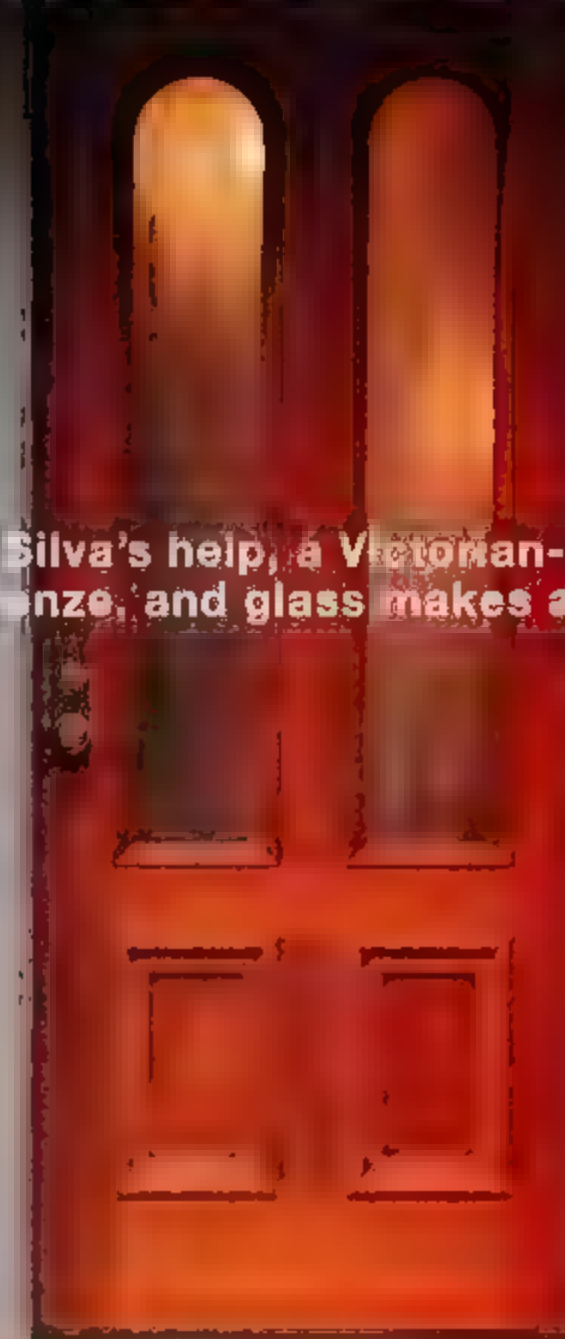


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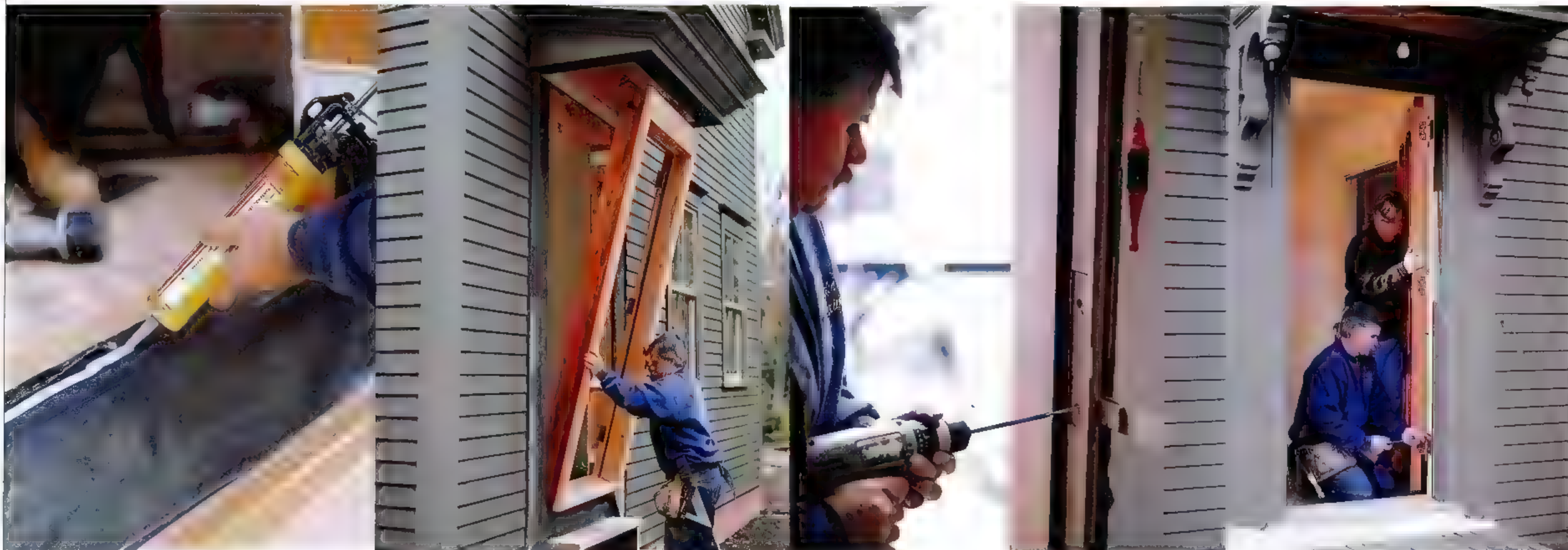
## OPENING statement

With Silva's help, a Victorian-style door, made of bronze and glass makes a grand entrance.



BY MICHAEL McWILLIAMS  
PHOTOGRAPHS BY KELLER & KELLER





**LEFT:** On top of the bitumen-based membrane that guards the sill from water infiltration, Tom runs a thick bead of butyl mastic, which closes any gaps between the membrane and the bottom of the threshold. Note the small fold on the inside edge that stops any water that gets by the mastic. **RIGHT:** When the door opening is weatherproofed, Tom inserts the mahogany jamb and oak threshold. He removes door itself to make this task easier.

**LEFT:** Shims are Tom's tools for adjusting and supporting the jamb. At the shim locations, he then drives screws through the jamb and into a stud. **RIGHT:** With the help of T.O.H. host Steve Thomas, who balances the door on his foot, Tom refits the hinges into their mortises and screws them down tight. "Normally, I take the pins out of the butts," Tom says. "But with these ball-bearing hinges, it was easier to leave the pins in place."

Framed in the open doorway to his brother's new house, *This Old House* contractor Tom Silva battles a balky door latch. He chisels away a trace of mahogany from the jamb, refits the strike plate, and closes the door as he steps outside. Through its arched windows, the crew inside sees him roll his eyes when the door sticks shut, yet again. Tom sighs, and knocks to be let in.

"Well, at least we know it'll keep the riff-raff out," quips one of his team while Dick Silva works the door open for his brother. Tom smiles as if to say, "Very funny!" and immediately goes back to adjusting the latch. Minutes later, a precise metallic click signals the victory of man over hardware.

From start to finish, hanging any exterior door is always an exercise in patience, precision, and a bit of frustration, even for a carpenter as skilled as Tom Silva. But given the significance we attach to the front door, every effort lavished upon it is worthwhile. This portal, between public and private realms is the focal point of the facade, and it speaks, perhaps more eloquently than any other part of a house, of its owners' taste and status. The door is the first and last thing we touch as we enter and leave a house. Each time, we unconsciously assess its weight, how smoothly it glides on its

hinges, how solidly it closes, and by extension, the quality of the home itself. A flimsy door says flimsy house, no matter how well constructed, a solid, properly hung door says just the opposite.

Chuck Peasney, a designer for doormaker Rochester Colonial, puts it this way: "It's really like jewelry for the home."

Rochester Colonial custom-made the front door to go with Dick Silva's new Victorian-style house. The door is a magnificent piece of work, 3 feet wide, 7 feet tall, 160 pounds of Honduras mahogany, fitted

with two glass panels, and ornate bronze hardware. "We selected the mahogany and other materials to accentuate the Victorian look," Tom says. The rich russet wood—known for its stability and weather resistance—is glued together in a two-piece lamination that is 2 1/2 inches

#### A TIP FROM TOM

*"The biggest mistake people make when they hang exterior doors? They don't use enough shims. The door starts out working fine, but after a couple of years and a few thousand slams, it sags in the jamb and starts to stick."*

thick, then cut to within 1/10,000 of an inch of its specifications on computer-controlled machinery. The joinery is all mortise-and-tenon, for maximum strength (see "That's Some Joint," p. 80).

The dual, high-arch lights, a prominent and graceful feature typical of 19th-century homes, were a topic of fraternal debate. Dick Silva favored the classical look of small, leaded panes like those used in stained-glass windows, while Tom felt that etched glass designs would best accent the house's style. When asked if they should defer the matter to Dick's wife, Sandy, Dick deadpanned, "Yeah, that would be the wise thing." Sandy ultimately ruled for etched, although the glass didn't arrive in time for the installation. Tom temporarily filled the openings with Plexiglas.

There was no such debate over the door hardware. Made by Cirecast out of strong silicon-bronze (which looks like old-fashioned red brass), the doorknobs, strike plates, ball-bearing hinges, and mortise locksets are all based on ornate 19th-century models. The large hinges, for instance, replicate the typical features of their Victorian predecessors. They project 1/4 of an inch out from the

door, originally they were designed to allow the door to swing past the thick casings, the trim that surrounds a door; the leaves get progressively thicker toward the hub (where strength is most needed); and the hinge pins have decorative steeple tips. Even the screws are a throwback, with their straight-slot heads instead of the more common Phillips heads. Cirecast's Peter Morenstein says, "This hardware has always been a popular choice for great public buildings such as state capitols, city halls, and public libraries," he says. "Now more people want it on their homes too."

Traditional metal weather-

*One of the biggest sources of air infiltration around a door is between the jamb and the framing, so Tom fills the gap with a squirt from a can of expanding polyurethane foam. The closed-cell foam seals off drafts better than fiberglass, but too much of it will bend the jamb and ruin all of his careful work.*

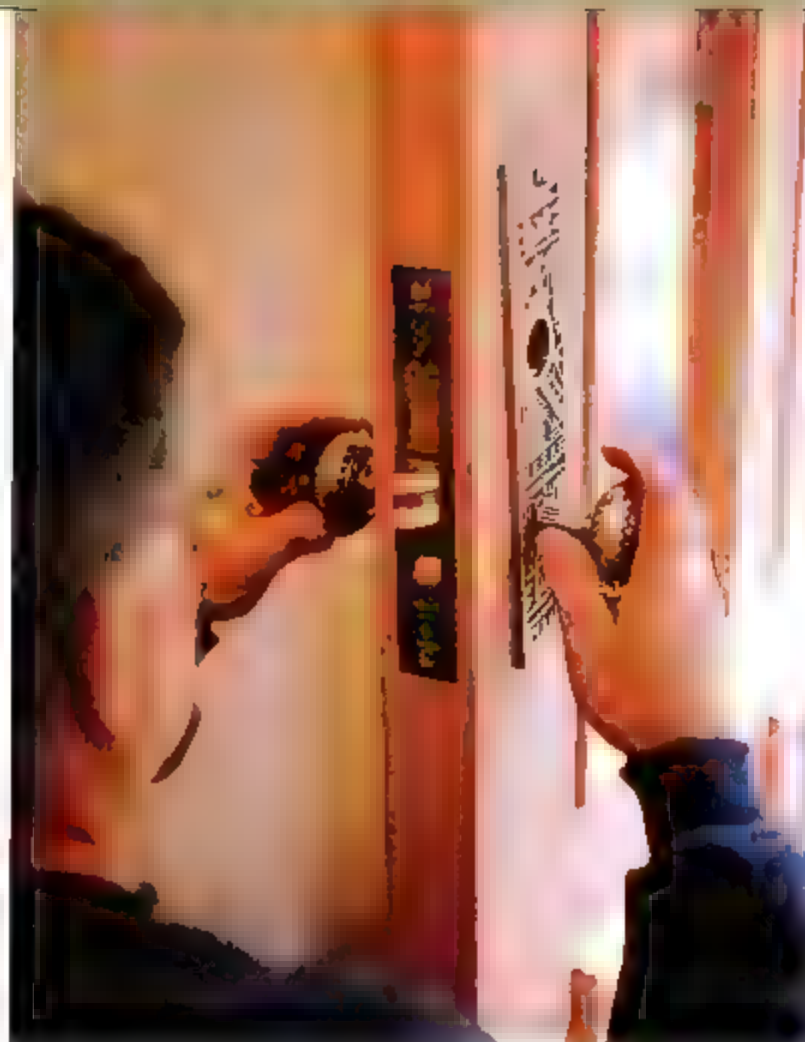




erstripping for door is less popular, however. While the interlocking strips of metal work fine when new, one bump or misplaced step can bend them and let in the drafts. That's why Rochester outfits its jambs—the framework surrounding the door—with a continuous strip of Q lon, a closed-cell foam wrapped in rubberized nylon, which effectively seals out drafts and doesn't lose its shape. Meanwhile, a rubber multi-fin bottom sweep fits tightly against the white-oak threshold.

Rochester Colonial delivered the door to Tom Silva “pre-hung” in its mahogany jambs with the hardware, threshold, and weatherstripping in place. In theory, all Tom would have to do is place the door and jamb in the rough opening and drive a few screws. But he knows from experience that it's never that easy. First, he rechecks the dimensions of the opening, and whether it's plumb, square, and level. Then he removes the hinge pins and takes the door out of the jamb to avoid having to lift the nearly 200 pounds of hard-to-rep-ace wood, glass, and metal. All around the outside of the jamb, he sprays a coat of quick-drying catalyzed lacquer to seal out moisture. “It's just like priming the back of clapboards,” he says. “It adds years to the wood and stability to the jamb.”

The door opening itself also needs protection from water, so Tom takes special care to thoroughly wrap, flash, and seal its perimeter. Starting at the bottom, he applies wide strips of Bituthene, a



*Tom applies the finishing touch, a doorknob. This silicon-bronze hardware is chemically antiqued to highlight the elaborate Victorian pattern. The single-key dead-bolt lock will be backed up by the new home security system.*

bitumen-based membrane, over the sill and 4 inches up both jambs. With a simple fold along the inside edge, he keeps wind-driven rain from migrating past this barrier and into the house. On either side of the opening, he hangs long vertical splines—strips of 30 lb. felt paper—to prevent water from finding its way between the siding and the door casing. After the door is installed, he'll also weatherproof the tops of the doors with more layers of builders felt, Bituthene, and lead-coated copper.)

With the opening prepped, the jambs ready to be installed, Tom runs a thick bead of mastic over the Bituthene, then lifts up the jamb, tips it into the opening, and seats the threshold onto the mastic. He and Dick line the jamb up with the inside wall and proceed to

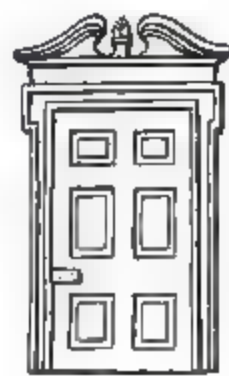
adjust it using little more than a plumb bob, a spirit level, and a tape measure. They slip shims between the jamb and the rough opening—at all hinge points, the strike plate, and at each corner—and work their way up, fine-tuning the position of the jamb until the jamb is precisely plumb, level, and square. Then, just to make sure he hasn't overlooked anything, he measures the width of the opening from top to bottom. Only when everything checks out do they drill, then drive long screws through the jambs and into the studs, at the shimmed spots only.

The door goes back on its hinges to make certain it doesn't flop open or close by itself or stick in the jamb. Tom likes to main-

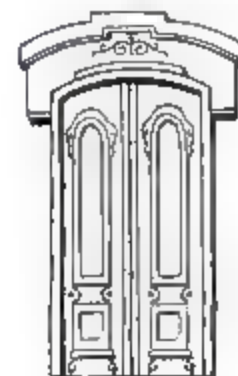
## HISTORIC DOOR STYLES



Tudor



Georgian/Colonial



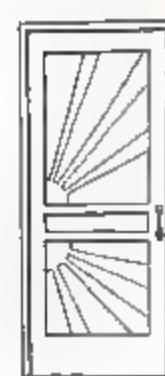
Victorian/Italianate



Victorian/Queen Anne



Arts and Crafts



Art Deco

The earliest front doors were plain, vertical oak planks with iron nail heads and strap hinges. By the 18th century, joinery and hardware improved so that Georgian and Federal houses had hidden hinges and flush- or raised-panel doors, with six and eight panels being most popular. Not until the Victorian era did doors display whimsical features like curved windows, and by the early 20th century off-center cutouts appeared on the scene.

ILLUSTRATIONS: GREG NEMEC



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tain an consistent reveal, or gap, between the door and jamb of no more than  $\frac{1}{8}$  of an inch. When he's satisfied, he back-caulks the exterior casings and nails them to the frame. Moving back inside the house, he injects expanding foam insulation between the jambs and the studs and headers.

This canned foam is a fast and effective way to stop drafts from working their way in, but "you have to be careful with this stuff," says Tom. "If you put in too much, it can press on the jamb and keep the door from closing properly."

Some more work remains. The interior casings need to be nailed on, once the foam has hardened. And in a day or two, he'll protect the wood on the exterior with four spray-applied coats of

A front door, whether custom-made or selected from stock, defines the style of a house. 1. A multi-panel double door graces an inn in Massachusetts. 2. Mouth-blown glass set into a hardwood frame dresses up a Prairie-style house. 3. A set of double doors complements the entry to a Victorian in the city. 4. A classic six-panel door adds the right touch to a Colonial home.

Sikkens Cetol, a clear, UV-blocking marine finish; the inside of the door will get five coats of catalyzed lacquer. Then he'll hand polish all sides with pumice, rottenstone, and oil, until the entire piece gleams. When the elegant, molded-foam brackets are placed under the overhanging roof, the finished front doorway will look as if it's been transplanted directly from Victorian times.

Barring any complications, Tom can usually install a pre-hung exterior door in about two hours. But with this door, at the last moment, one small complication does crop up: the doorknob's spindle won't fit in the lockset. There's a protracted struggle, and even a suggestion to call the manufacturer, but finally the uncooperative spindle slides into place. Tom straightens up. "Well, that was easy." Taking his cue, his brother Dick adds, "It helps to read the instructions!" ■

## That's Some Joint

Solid wood is the traditional standard for entryway elegance, but the range of wood types can befuddle even the best-informed home owner. Although there seems to be an endless array of wood species to choose from, only a few—such as maple, oak, cherry, walnut, mahogany, redwood, and fir—are stable enough to keep their milled dimensions and stand up to the weather without rapidly rotting or having joints open up. And even these woods need protection from sun and water to avoid turning gray and weatherbeaten. Enamel door paint may be the ultimate long-lasting barrier, but if you've just invested in a premium mahogany door, a clear coating makes more sense. Tom always uses marine-grade finishes with UV blockers.

In traditional door construction, a tongue of wood called a tenon fits into a slot called a mortise, making an extremely strong, sag-resistant joint between the door's vertical stiles and horizontal rails.

Beyond materials, a door's true quality is largely a matter of how well it is put together. And that basically comes down to a choice of doweled joints—the industry standard—or classic mortise-and-tenon. "Because of the expense, most door makers have moved away from full mortise-and-tenon joinery and toward doweling," says Chuck Peashey, of Rochester Colonial Manufacturing, which made the front door for the Billerica project. Peashey's company can build door using mortise-and-tenon construction because the demanding task of making the joints is handled by computer-controlled equipment. Using wood seasoned to a moisture content of 8 percent, the machinery cuts and smooths each piece so precisely that the door could hold together even without glue, Peashey claims. Nonetheless, it is glued together with a water-resistant adhesive. "We think this is the best way to build any door."

PHOTOS (CLOCKWISE FROM TOP LEFT): ARCHITECTURAL COMPONENTS INTERNATIONAL; WOOD PRODUCTS; ROCHESTER COLONIAL; MORGAN MANUFACTURING; CHRIS STEIN (2)



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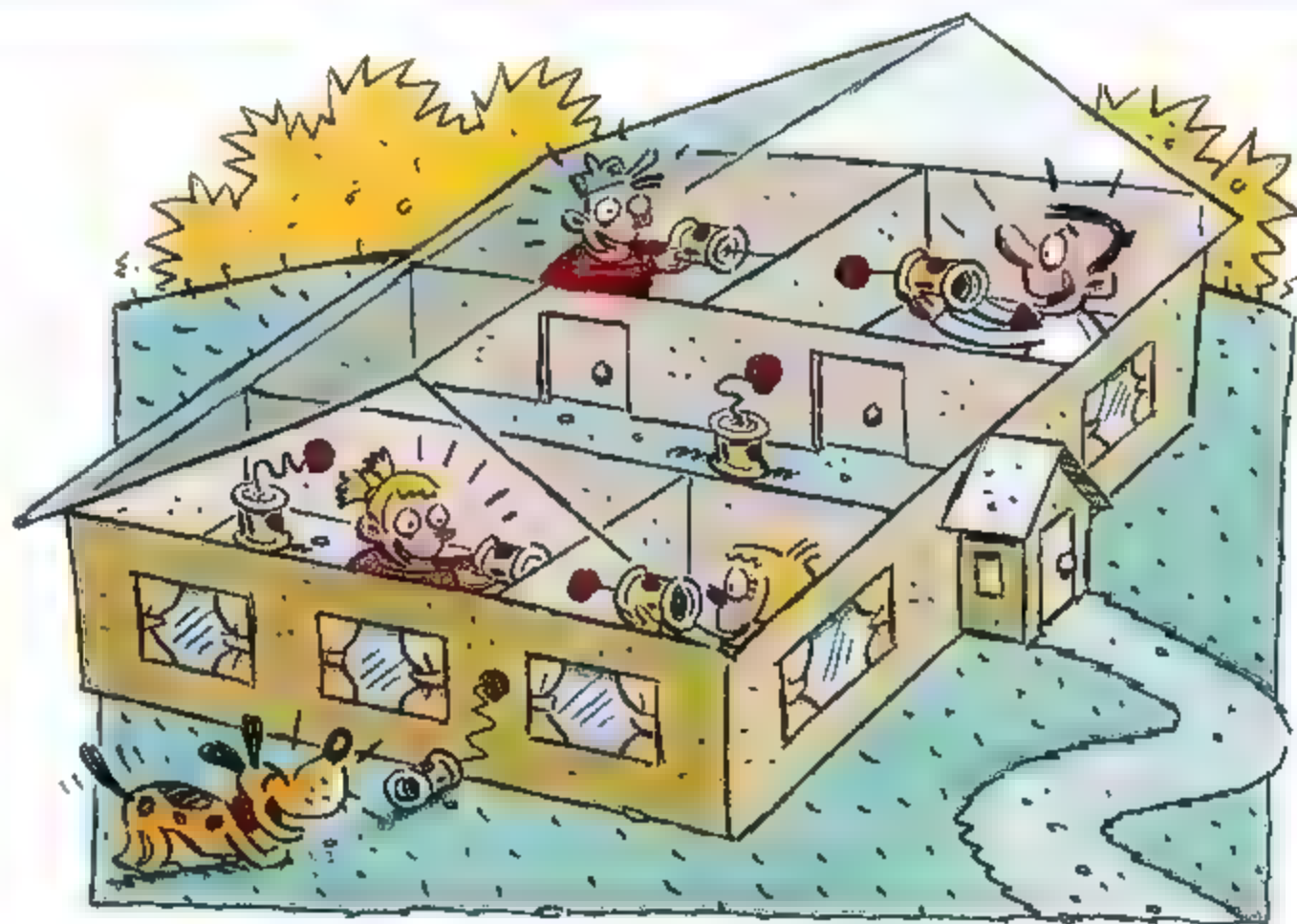
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# family TIES

## Getting Connected With a High-Speed Computer Network for the Home

When the Silvas sit down at any of the three computers in their new home, they are able to do what few families in America can. With a few keystrokes, they can swap e-mail and files with one another; play the same games while in different rooms; share printers, picture scanners, and the like; and simultaneously hook up to the World Wide Web through a single phone or cable TV line—all thanks to the high-speed network of wires running through nearly every room of the house.

Today, most home computers are isolated islands of work and play. But as they get less expensive, and more families own two or more, connecting them is a logical next step. That's why most modern offices have networks. They're efficient (you only need one printer to serve multiple PCs) and they greatly enhance

each computer's versatility at the same time they open up new ways of communicating.

To enjoy all the benefits of networking, whether in an office or a home, it's important to have the right infrastructure of high-speed wires and easy-to-use software. The Silvas have two types of wire in their walls: Category 5 telephone cable, which can handle voice calls at the same time it moves large loads of digital data, and RG6 coaxial cable, which serves as a TV cable while also making possible super-fast computer downloads from the Internet. Both cables can transmit digital information at 100 megabits per second (Mbps), a quantum leap beyond the phone lines that are attached to most home computers.

Having two kinds of wire offers the Silvas two advantages: They

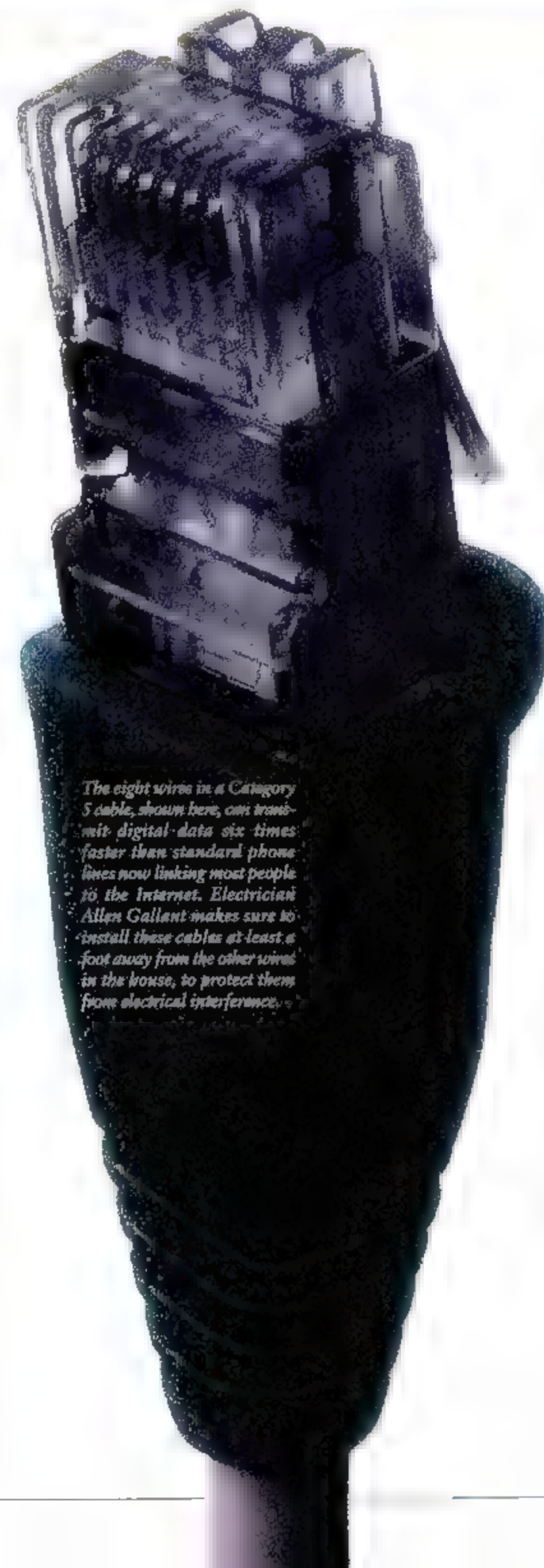
have a fallback in case one type becomes obsolete, and the flexibility to choose either a telephone company or a cable TV company for Internet service. In addition, there are two loops each of Cat5 and coax cable throughout the house. Doubling up the wiring lets the Silvas plug more than one piece of equipment into a single outlet—each wall plate has two outlets for the coax and two for the phone plugs—and gives them a backup in case a wire fails. All the cables lead to the basement, where a central processing unit (CPU) functions as a traffic cop for smooth hookups to the Internet and as a storage center for files that the whole family can use.

Because the Silvas built from scratch, installing the network's wires was a snap. Electrician Allen Gallant and his two-man crew took only a day to bury the cables in the open walls before the wallboard went up. By contrast, it might take a week to do the same job in an existing house, says Gallant, because of the extra time required to snake lines through small openings in walls and between floors and ceilings. Home owners who want to sidestep the cost of rewiring can buy networks that piggyback onto the existing phone lines or electrical wires, or that communicate via wireless radio transmissions. Wireless systems have proven to be less reliable than wired connections, however, and neither alternative comes close to matching the speed of a Cat5 or coax hookup.

Until now, getting a computer network up and running has been a challenge, even after the wiring is in place, due to the jumble of technical issues and terms. Happily, the newest networking kits, which provide the necessary hardware, software, and computer-to-wallplate cables, have done a lot to simplify the process. The Silvas' kit—HomeConnect Ethernet 10/100 from 3Com—has Microsoft's HomeClick software that asks you some basic setup questions, then directs the software to execute the more complex networking operations. When the Silvas add a new printer or a new computer to the system, all they have to do is follow the same simple steps. The two computer starter kits range in price from \$100 to \$200. Adding another PC usually costs \$50 to \$100.

Making the physical connection between computers using network wiring is getting simpler as well. Some kits now offer the option of using either the computer's serial port (such as where the printer plugs into the CPU) or a Universal Serial Bus (USB) port. These external connections are not as fast as the Silvas' network interface cards, which require you to get under the hood of your PC and plug the card into the circuit board.

Now that their network is up and running, the Silvas' house is equipped to do much more than link computers and printers and fax machines, if a multi-industry effort called Universal Plug and Play (UPnP) bears fruit. The goal of UPnP is to create a standard communication "language" for many kinds of electronics—including new TVs, stereos, and cameras. In theory, when a UPnP-compatible device is connected to a network, a quick exchange of digital information will allow the computer to automatically identify the device and control it. Linking these devices to the network creates all sorts of interesting possibilities. For example, a security camera at the front door might show a visitor on the TV screen when the doorbell rings, or record their images on your computer even when you're not home. Similarly, a musical "script" on your computer might change radio stations or CDs on your stereo system according to the time of day. "Everything is going to be computer-driven eventually," says Gallant. "The Silvas will be ready." ■



The eight wires in a Category 5 cable, shown here, can transmit digital data six times faster than standard phone lines now linking most people to the Internet. Electrician Allen Gallant makes sure to install these cables at least a foot away from the other wires in the house, to protect them from electrical interference.

PHOTO: ERIC ANENE



PHOTOGRAPHS BY MARK LOHMAN  
PRODUCED BY DONNA PAUL

A 1960's ranch takes on  
a sleek look in tune with the times  
and the owners' new life

# A CLEAN SLATE

BY NICK BERMAN



RIGHT: The pre-renovation ranch was completely closed to the street. ABOVE: Architect Nick Berman pierced the front wall with three glowing windows highlighted by blond wood frames. Powers gave way to stacked slate, and the new landscape features gray-green lavender.





The neighborhood surrounding Joan and William Feldman's vintage ranch looks like a lot of the suburban hodgepodge that swept Los Angeles in the wake of the Second World War. Roads wind past sprawling white stucco ranch houses with sliding-glass doors and decorative rock-covered roofs—hillside hybrids that mix classic California indoor-outdoor style with Mediterranean kitsch.

So it's all the more striking to discover something of simple beauty on a block where you might otherwise expect to find the *Brady Bunch* "splanch." While nearby home owners have tried to spruce up their facades with decorative cinder block and iron gates, this late-1960s tract house has undergone a transformation inside and out—yet without expanding or radically restructuring the home. Instead it has achieved a totally new look through a sophisticated interplay of earthy and cool materials. The mix is subtle, but it's impressive even from the street: an inviting expanse of stacked-slate steps, a smooth garden wall coated in gray concrete, a row of square awning windows trimmed in blond wood that seem to guide the eye to the glass-doored entry.

"You stop to look at it because it's so spare," says Los Angeles architect Nick Berman, who spent more than six months in 1996 remodeling the 5,000-square-foot house. "It's not flashy or glamorous—it's understated. Yet it's very intriguing."

The facelift was long overdue, and even then it took an act of God—the Northridge earthquake of 1994—to prompt Joan Feldman, a psycho-

therapist and art collector, to contact Berman, whom she had met some years earlier while helping a friend remodel an investment property. A lot had happened in the meantime. Feldman's three children had grown up and moved out of the house, and she had separated from her first husband. Now, with the quake having made crucial repairs necessary—and with a soon-to-be new husband, real-estate lawyer William Feldman, spurring her on—she had the opportunity to re-envision a home to suit her changed life. The design that ultimately took shape was driven by the atmosphere Feldman wanted to achieve—a place that was open yet embracing, where she could entertain a lot of friends and family yet also feel perfectly happy curled in a chair by herself. "Nick and I very much agree on a kind of living environment where you can put your feet up," says the lively brunette. "I wanted something absolutely wonderful—but informally wonderful."

Feldman and Berman both thought that the house had good bones, and that the solution to its problems didn't demand a gut renovation. "It was just a question of unlocking the theme," says Berman. "Doing remodels is like being a building's psychiatrist. You sense what its soul is, bring out its best qualities, and refine them."

In this home, the strongest structural feature was a gabled Douglas fir ceiling atop the centrally located living room, which suggested a serene Japanese pavilion. With a wall of glass at either end, the room seemed to offer the harmony of indoor-outdoor living. Yet nothing about the interior of this room or any other was designed to catch the light. The house was saddled with dark wood beams, heavy stonework on the



ABOVE: The old view from the living room through to the front doors and courtyard. RIGHT: The same room today. The ceiling and the window frames now match, and the heavy front doors are gone.





The reconfigured kitchen incorporates a new combination of light, from a two-part maple island. The simplified corner section can be moved for improved traffic flow, and the island's new location was needed.

walls, brown floor pavers, poorly organized spaces. An '80s remodel had made the place even busier with the addition of dark wood floors, a black-granite bar off the living room, white-tiled kitchen counters (with brown grout), a lattice-covered eating nook, and skylights screened with plastic diffuser panels (housing fluorescent lights for nighttime illumination). Berman's renovation strategy: "To pare the house down and improve the architectural layout."

But first, he had to fix the quake damage. Though the house wasn't in critical condition, it needed \$250,000 worth of repair work. All the old sliding aluminum doors and windows were jammed, and the concrete slab beneath the floor was cracked, making it necessary to remove the wood flooring. After taking out sections of the floor, contractor Ernesto Alonzo installed Rebar, a hardened steel that reinforced the new concrete he poured. Once this was done, he started framing new interior walls.

The goal overall was "to create a light feeling," says Berman. First, he changed the framing and composition of the doors in the living room. "They had no character," he says, referring to the aluminum-framed glass sliders, topped by large panels of glass. There were two problems. First, the substantial wood ceiling and the glass walls were out of sync with each another. Second, while the upper glass panels had a clean look, the wall beneath was a cluttered mix of wooden front doors and metal frames.

Berman replaced the metal door frames with vertical-grain Douglas fir. The natural material was more in keeping with the outdoor scene it framed and unified the doors and ceiling. He replaced the wooden front doors with glass ones (an outer set of opaque glass doors protected privacy), and further lightened the room by sandblasting the old dark ceiling and stained beams.

The kitchen at the center of the house also required extensive renovation. It was small and lit primarily by skylights. While Berman was able to quadruple its size by gutting several storage spaces surrounding it and removing poorly placed pantry cabinets, he needed to find a way to admit exterior light. His creative solution: install a glass panel along the top of the wall separating the room from the adjacent sun-filled den. The problem was that this wall bore the weight of the roof; to keep it stable, Alonzo ran a beam of laminated Douglas fir along the

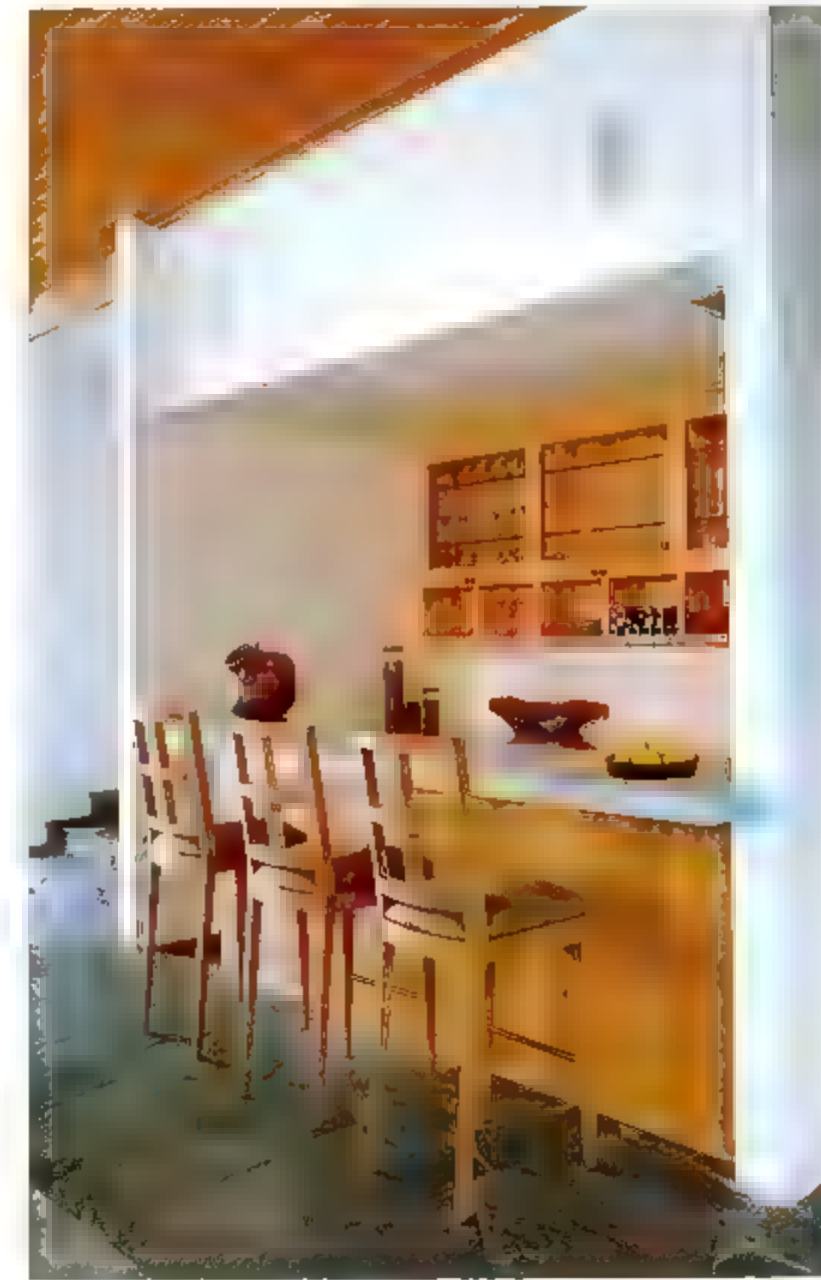


ABOVE: Before renovating, the den, to the left of the bar, was open to the living room. BELOW: A new partition wall, far left, narrowed the entrance to the den, and the bar got a makeover. An expanse of slender cabinets replaced the warren of liquor cabinets along the back wall, and the front received a maple veneer.

length of the ceiling. (Solid fir might have warped, and the deflection would have caused the glass to break.) Berman also enlarged the existing skylights—tossing the diffuser panels and fluorescent bulbs—and created a new one over the kitchen island. Rather than install a header in the cutout, he left the joints exposed to cast shadows that would add texture to the room.

A major shortcoming of the house was a lack of symmetry. To make the place feel more balanced, Berman created two sets of 7 foot-wide steps flanking the bar in the living room. On one side, he narrowed an existing set of steps running up to the den. He put up a partition wall between the den and the living room, creating a place to hang art in the living room and a niche for a sofa in the den. On the other side of the bar, Berman broadened the steps that led to the kitchen and dining room by ripping out a wall and widening a 3-foot corridor to the kitchen. "When you line up doorways and have equal-width hallways," says Berman, "it organizes the space and makes a soothing impression. One of the things you now feel in this house is a certain kind of tranquility and calm."

The architect applied this kind of consistency to the floor, as well. Prior to the renovation, tile covered the first four feet beyond the front door, then carpet. "This compartmentalized the entry," says Berman. He removed the old material and installed instead a single







one—cashmere slate from India—throughout the house, extending it outside to the front courtyard and steps. That choice set off a chain reaction of stone or complementary man-made finishes in other areas. The living room bar is topped in limestone, and Berman finished the fireplace walls in the living room and den in a specially processed stucco. Applied in three layers and troweled hard (“burning the stucco”) to bring out the aggregate, the result is a mottled effect that resembles polished concrete. Berman used a different material

from the surrounding dry-wall to give the fireplace walls “their own integrity.” Additionally, he canted the wall in the living room, giving it a floating appearance. Finding the right material for the kitchen counter took some experimentation. “It seemed every gray granite I picked out clashed with the slate floor,” says Berman, who found a better aesthetic match in a synthetic concrete. (A beautiful material, it cost 40 percent more to install than granite and requires more upkeep.)

Berman encountered other difficulties with the counter

*LEFT: Installing the 2,000-pound slab of Yosemite slate in the bathroom was an engineering feat. The pipes beneath were given a bronze finish to match the sink. RIGHT: A broad new window in the den looks out onto the backyard’s redwood decking. Removing a large pergola brought light inside.*

he installed in the powder room, though the final result made it well worth the work. The problem was the 2,000-pound slab of Yosemite slate the architect and the owner selected that had to be cut perfectly to fit against the powder room walls. “Ernesto hated me for choosing it,” Berman jokes. Explains Alonzo, “It required a lot of what I call surgical construction. We already had an established opening, and it took eight people to carry it and set it in place. That was one of our biggest challenges.”

It’s ambitious details like this that have made Berman more philosophical about his job. “One of the things I’ve learned is

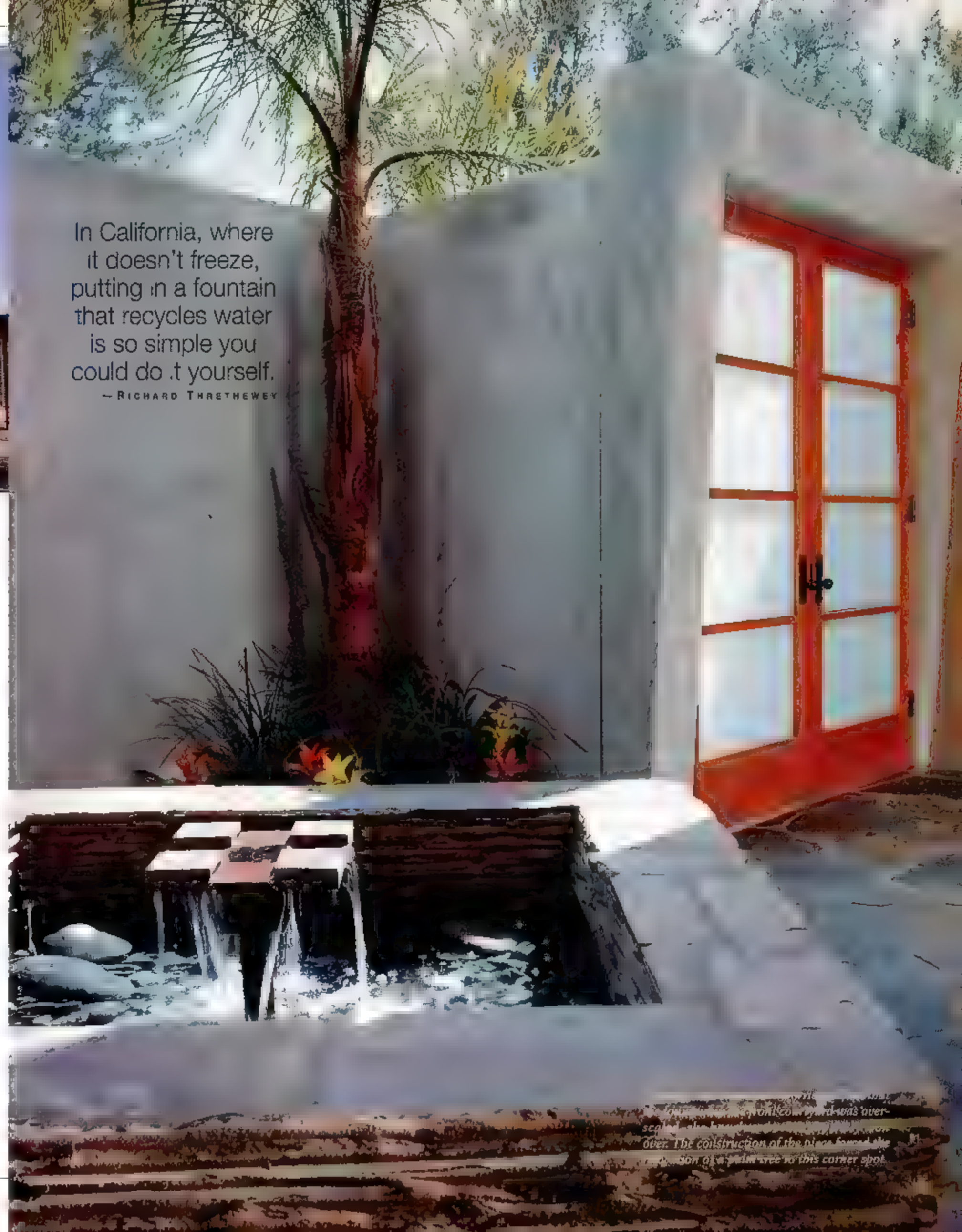
you can’t control every element of your design,” he says. “It’s like a piece of art—it changes, and you have to roll with it.” And Feldman, who got remarried during the project, was excited to see her ranch so artfully streamlined. “I’m at a simpler stage of life,” she says, looking around at the house that now suits her so well. “I’m much more home-focused.” The new design has turned out to be just as welcoming as she had hoped. “When we have company, I leave the doors open and we wander in and out of the courtyard with drinks,” she says. Obviously there’s a lot to celebrate. ■

### How the Water Works

“The new fountain in the front courtyard is a big key to the calm feeling of this house,” says architect Nick Berman. “The sound of the water sets a good mood as soon as you walk in.” And because people gravitate to the fountain, it has made the outdoor space a dynamic extension of the interior. Though Berman didn’t persuade the owner to add the water element until very late in the job, it was easy to set up. The architect was able to take advantage of an irrigation system that existed for two palm trees by extending the water line another 7 feet (the line makes it more convenient to refill the fountain.) He built the form out of 6-inch-thick concrete block, stuccoed the interior wall and waterproofed it with Thoroseal, a waterproof coating, then stacked slate around the 24-inch-high structure. The top layer of slate doubles as seating. At the bottom of the fountain, river rock conceals lights as well as the pump that recycles water up through a 27-inch-long column to an 18-inch-wide basin divided into four squares. The water pools in the squares, then trickles over the edge. Though the finished piece cost around \$7,000, a simpler decorative basin—this one was custom-made of copper—would have cut the price.

In California, where it doesn’t freeze, putting in a fountain that recycles water is so simple you could do it yourself.

—RICHARD THRETHEWEY





# THE BEST OF THIS OLD HOUSE



ILLUSTRATION BY RUTH MARTEN

## TWENTY YEARS OF INNOVATION

### Tools • Techniques • Materials

Believe it or not, the original concept for *This Old House* involved no roaring power tools or flying sawdust. "We were going to tour newly remodeled homes but without detailing the steps that got them there," says executive producer Russ Morash, the show's founding father. But that notion was quickly scrapped for another idea, one that legions of viewers know well—a serialized docu-



"Working on an old house can be an adventure, but the payoff comes in knowing you've preserved a piece of history," says *This Old House* creator Russ Morash, far left, who has marshaled T.O.H. regulars like Steve Thomas and Norm Abram through two decades' worth of projects.

mentary about the process of renovating houses. Twenty years and dozens of projects later, it's the most popular show on public television, with millions of viewers every week.

By focusing on the process, not just the results, Morash's show spotlighted an array of interesting new tools and building materials, and, with the help of skilled craftsmen like Norm Abram, Tom Silva, Richard Trethewey, actually demonstrated their use in the field. We asked them to look back over the last two decades and tell us which innovations have made a real difference. What follows is the best of the best: the stand-out products and the bedrock principles behind *This Old House's* long record of renovation successes.



## FIX THE BASICS FIRST



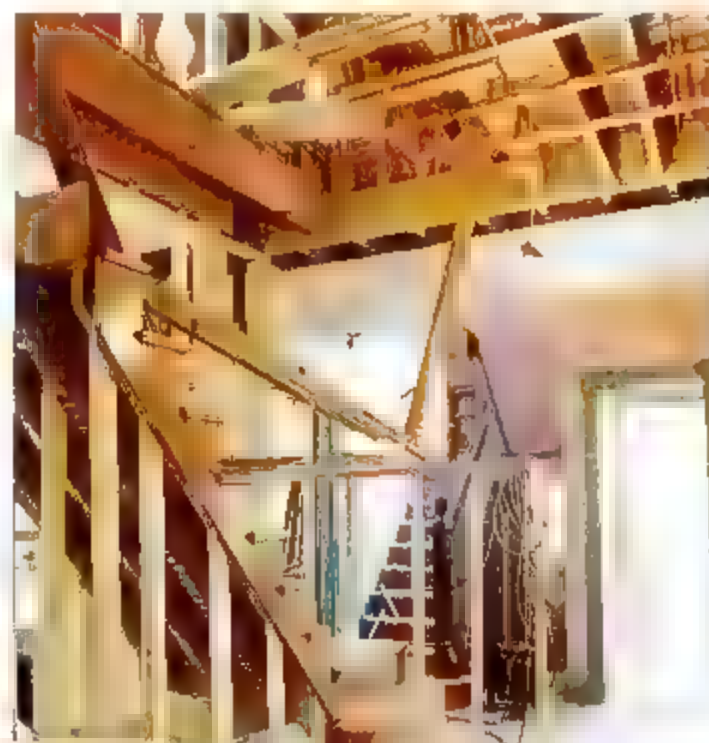
"It's the major things that need your attention first," says Norm Abram (TOP LEFT), who worked with Tom Silva to replace a termite-infested mud-sill at the project house in Watertown, Massachusetts (ABOVE).

Most renovations are born of a dream—whether it's cooking a meal in a gleaming kitchen or waking up in a spacious, light-filled bedroom. But before the fantasy can become real, a very critical matter needs attention: the condition of the underlying structure. Even though such repairs are painful to contemplate because there's little to show for all the money spent, *This Old House* has always stressed how important it is to take care of the hidden elements of a house before work can proceed. "There's no point in going ahead with a renovation until you've addressed a problem like a rotten mudsill," says producer Bruce

Irvine, referring to the beam on top of the foundation that bears much of a house's weight. "It's got to be fixed, along with the problems that made the sill rot in the first place."

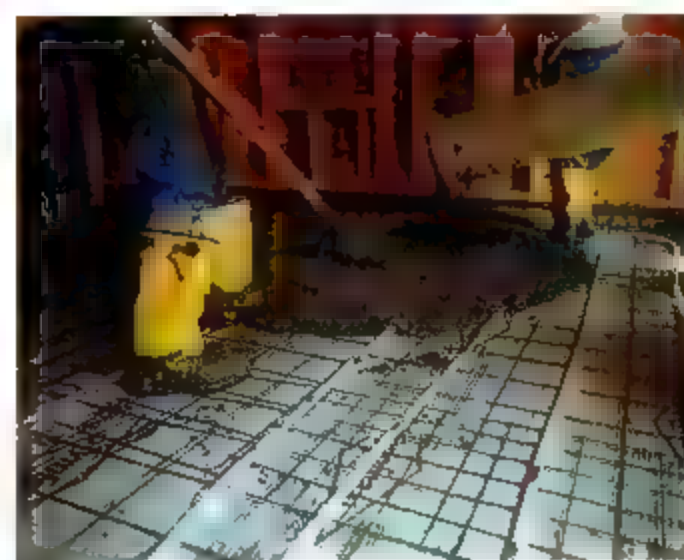
Another kind of structural work involves changing a house's interior so it's in step with the way people live their lives today. A case in point was the three-story Victorian in

Watertown, Massachusetts, had three staircases on the first floor—a holdover from the era of live-in servants—that divided the inside into a maze of tiny rooms. So during the course of the project, contractor Tom Silva and master carpenter Norm Abram carefully removed two of the staircases and relocated the best one to the center hall. The project took weeks to finish, but in the end their work completely reconfigured the floor plan, created a logical room arrangement, and preserved a beautiful example of the stair-builders' craft. "That was a big deal, believe me," says Bruce. "But had the home owners left it as it was, they would have been living with the sins of that layout forever."



Moving the oak staircase that had been situated at the back of the Watertown house (INSET), helped create a new entrance hall (ABOVE). "When you're renovating, you've got to think big to get what you want," says Tom Silva.

## BUILD FOR COMFORT



The loops of plastic tubing being buried in this lightweight concrete will carry hot water and heat the floor to a comfortable 85 degrees Fahrenheit.

hardware—things they can see—than on laying down pipes."

Through the years, Richard has introduced several innovative ways of heating and cooling. For cooling, he likes the high velocity central air conditioners that have flexible, 2-inch-diameter ducts, which can be easily and unobtrusively installed through the walls and ceilings of old houses. And for heating, he's a big fan of the radiant floor systems, which he has championed on the show for more than a decade. With radiant heat, flexible tubes are embedded in or attached to the floor, "so there's no draftiness the way there is with forced-air systems," Richard says. A pump pushes warm water through the tubes, which gently release their heat underfoot. "The floor simply warms your body—especially your feet—to just the right temperature." Radiant heating is more costly to install than, say, hot-water baseboards, but generally is more efficient to operate. And as anyone who has experienced this kind of heat knows, nothing can match its comfort. Says Richard, "If we can educate consumers through the show to demand things like this that will improve their lives, then we'll have performed the biggest service of all."

Asked about comfort, most people think of thick carpeting, perhaps, or the cushiony embrace of a living room full of love seats. But true comfort lies in moderating the outside climate—whether in the blasting heat of an Arizona summer or the biting cold of an Alaskan winter—so that we hardly are aware of it. "To rephrase what W.C. Fields said about children, 'Comfort should neither be seen nor heard,'" says I.O.H. plumbing and heating specialist Richard Trethewey.

He laments that few people pay attention to improving this critical aspect of their house. "They'd much rather spend money on faux finishes and exotic



No one wanted to mar the antique pine floor in the living room at the project in Milton, Massachusetts. So Richard Trethewey attached heating tubes to the floor's underside (INSET).

## PRODUCTS THAT WORK

Many products featured on *This Old House* make brief, one-time appearances before being confined to the video archives. But there are a few innovative ideas (below), that show up in front of the camera time and again. The reason for their ongoing appearances on the show's projects is simple: They work so well, that no one on the show would think of building without them.



## Home Foam

Good-bye, fiberglass insulation, hello, Icynene (LEFT), a urethane foam that expands to seal out drafts. Tiny air pockets create the R-3.6/inch insulating value (comparable to fiberglass's R 3.76) and block most moisture movement, no additional vapor barrier is needed. "Plus, the foam muffles sound, so your house will seem quieter," says Richard Trethewey.



## No-Solder Pipe

Radiant-floor heating, once synonymous with leaks, has surged in popularity thanks to PEX tubing, a durable cross-linked polyethylene product introduced 25 years ago. And because it's drinking-water safe, PEX is a boon to plumbers who have to snake supply lines through old houses.



## Man-Made Timber

By combining the strength of glue with that of wood, engineered lumber has changed the way houses are built. One product, the I-joist (LEFT), can carry the same loads as ordinary 2xs but weighs 25 percent less. And if strength is paramount, there is laminated veneer lumber strong as steel and able to span long distances without support posts. Tom Silva is a big fan of these man-made materials because they're more stable and predictable than the sawn alternative. "They're an architect's—and a builder's—dream," Tom says.

## Black Magic

If water is a house's worst enemy, then Bututhene is its most trustworthy ally. This black, rubberized asphalt and plastic waterproofing membrane was originally developed to block the leaks through roof eaves caused by ice-dams, but Tom also finds uses for it around chimneys, above windows, along walls vulnerable to splashing, and under doorways—anywhere that metal flashing would be applied to keep water out. But unlike metal, it adheres to almost anything and seals itself around any fasteners. "I never build without it," says Tom.



## BORROW WHAT'S BEST FROM THE PAST



Rumfords may look like ordinary fireplaces, but their shallow fireboxes and narrow throats make them extremely efficient at radiating heat.

ago by Englishman Fredrick Walton and made completely from benign, non-synthetic ingredients such as linseed oil, limestone, and jute. "I keep on using it because it's comfortable to walk on and wears like iron," Tom says.

An even more remarkable example of a time-tested product favored by the TV show is the Rumford fireplace, named after its inventor, an 18th-century American who became a Bavarian count (see *T.O.H.*, January/February 1997). As in Rumford's time, most fireplaces today are notoriously inefficient producers of heat. Even with glass doors in place, they send most of their heat up the chimney, along with copious amounts of smoke. By contrast, the Rumford fireplace is a marvel of efficiency. Barely a foot deep, with sidewalls that flare 135 degrees from the firebox's narrow back, Rumfords radiate two to three times more heat directly into a room than ordinary fireplaces and produce less pollutants, according to independent tests. "When people insist on fireplaces, we insist on Rumfords," says producer Bruce Irving. "It's an old technology that's proven to be better than anything else."

When a house has been standing for more than two centuries, it's certainly worth paying attention to the building techniques and materials that created it. "There's a lot to be said for the old ways of doing things," says Tom Silva. "My job is to figure out which of those methods and products work best." One of Tom's favorite floor coverings, for instance, is linoleum, a tough, handsome material invented about 140 years



At the 1998 San Francisco project, a massive Rumford fireplace became the focal point of the great room, which had once been the chapel of a church. "Now it keeps everyone in the giant space toasty warm all winter," says Bruce Irving.

## TOM'S TOOLBOX

The back-breaking work of renovating and building houses used to sideline most carpenters by the time they hit 40. But with the advances that have made power tools stronger and lighter, Tom Silva is still on the ladder past 50. Here are some of Tom's perennial favorites.

**Bulldog Saws**

RIGHT: When renovating a house, Tom Silva used to rely on crowbars and sledge hammers for demolition work—which aren't the most delicate of tools. Now he picks up a reciprocating saw, which slices through nails, wood, and plaster with unstoppable finesse. Tom's saw helps him do everything from framing skylights to cutting loose old kitchen cabinets.

**Handy Drills**

RIGHT: Once little more than gimmicks with all the oomph of a AA battery, cordless drill-drivers have become indispensable part of Tom's toolbox. "They're lighter than regular tools, they charge up fast, and you can work in the rain without getting a shock," he says.



## FIND NEW PRODUCTS WITH OLD-FASHIONED CHARACTER

In the frenzy of decisions that are made during the course of its projects, *This Old House* searches constantly for new building products that meet the following criteria: easy to install, low maintenance, durable, and, most important, appropriate to the finished appearance. "Nothing can kill the mystique of an authentic Colonial or Victorian faster than wide siding, or asphalt roof shingles," says Tom Silva. "I work hard to find new products that match the character of the house."

Wood-laminated floors, cement siding, and look

alike slate roof shingles are just a few of the innovative items he's installed. But nowhere is the challenge of balancing aesthetics with modern needs more pronounced than in the selection of windows. "You don't want to use something that's going to peel or eventually rot, but then you don't want something that looks like it will never peel, either," says Bruce Irving. "Getting that balance right, for me, is just

about the hardest part of renovating any house."

Over the years, *This Old House* has used all-wood, metal clad wood, and vinyl windows. But for the fall project in Billerica, they picked a thoroughly modern product made of extruded plastic and fiber made from wood scraps. A veneer of wood covers the inside; a paintable vinyl coating protects the outside. "Once we put them in, and finished their exterior trim, the house looked 100 years old," Tom says. ■



Whether a house is a renovation or brand new, like the Victorian farmhouse in Billerica, "the challenge is to keep it looking true to its style," says executive producer Russ Morash.



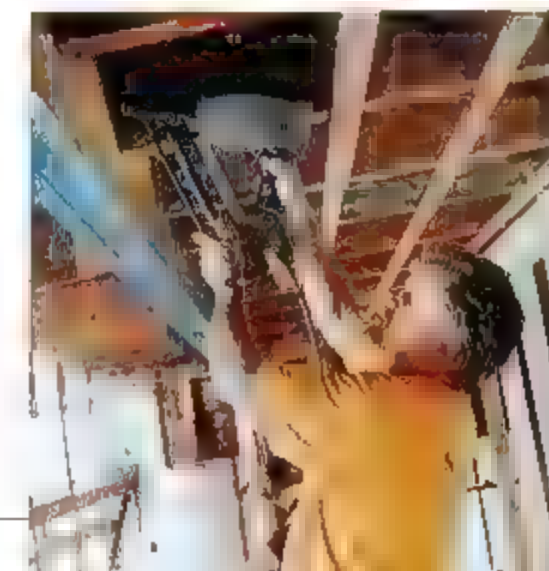
Windows make all the difference in the finished look of a project. Chosen carefully, as they have been for this bay in Billerica, they combine up-to-date energy efficiency with an appearance that's convincingly traditional.

**Slot Cutters**

RIGHT: Not a cooking utensil, a biscuit joiner is actually a tool for making wood joints fast and simple. With two quick plunges in two pieces of wood, it cuts matching slots for a little wood oval—the biscuit—that aligns the pieces while the glue sets. Tom uses his joiner for everything from cabinet frames to door casings. "Now there's no excuse for anything but top-quality joints."

**Fast Shooters**

RIGHT: Tom drives a lot of nails, but he rarely pounds them the old-fashioned way. "I might pick up a hammer to do one or two," he says. "For anything more, I use a nail gun." These air-powered devices, which can shoot everything from fine brads to 3-inch-long commons, "speed the work and save your arm," he says. "They are the biggest advancement in building tools I've ever seen."







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*Like this saguaro cactus, housing in Civano, Arizona, is designed to turn the sun's rays into energy and to conserve water. The developers salvaged 6,000 mesquite trees and these large-variety cacti during site work. OPPOSITE: The developers of Prairie Crossing, Illinois, also try to preserve the environment—and local character. This barn, once slated for demolition, was recycled as the community center.*



BY BARBARA FLANAGAN

## BUILDING THE New Hometown

Hundreds of new communities are shaping an old-fashioned future, making progress by looking backward

**T**he future is kind of like the weather—everybody agrees that it needs to be better, but very few people come up with concrete ways to change it. One area

where that's not true is in housing, where a number of progressive thinkers are deliberately trying to solve the problems that plague us, like "sprawl" and the isolating effects of the suburbs. Thanks to these visionaries, an adventurous family could now forgo the three cars and tract Tudor in the middle of nowhere.

Instead, they might join the first citizens of Civano, Arizona (prospective population, 2,600 households), and choose to live in an attractive little bungalow (made of recycled polystyrene foam) powered by the sun's energy. They could telecommute or walk to work, stroll their kids to the charter school through acres of real Sonoran desert landscape (preserved or salvaged), save energy







and operating costs (through photovoltaic electricity and passive solar design), and breathe easily (thanks to green building materials and methods).

Although it is definitely on the cutting edge, Civano is just one of a few hundred communities going up across the country that challenge the American real estate dream: the biggest house on the best lot for the lowest price and highest resale. These new developments offer a more demanding yet intriguing idea: living in a place with lasting values.

"People are looking for what's timeless now," says William McDonough, former dean of the school of architecture at the University of Virginia and master planner of Coffee Creek Center, Indiana, another new environmentally advanced community. "We're beginning to understand that we've got to slow down." The way to improve our lives and have a longer, healthier future, he says, is by building "mindfully," one house, one town at a time.

Compared to the way this country has developed in the last half-century, that thinking is a radical change of pace. After World War II, when G.I.'s decided to settle down all at once, builders, financed by short-term loans, threw up tens of thousands of homes on cornfields and built malls surrounded by seas of asphalt, the feds

## STRAW BALE

*An age-old technique, straw-bale insulation, as seen in this model home before (inset) and after stucco is applied, works well and reuses material that would otherwise be burnt. But home owners pay a premium for it. To lower the price, builders must design with the bale's shape in mind—cutting it is hard and raises costs.*

poured out highways; and although cities scrapped trolley rails to move car traffic through the old streets, they couldn't stop the exodus of stores and offices moving out to where the action was. In the suburbs, everyone not only bought lots of new stuff on credit, they consumed and replaced houses like cars, as they changed jobs, means, mates, or aspirations. Gradually, it became clear that growth was taking a psychological toll: Commuters sat immobilized on freeways; suburban moms got locked into holding patterns, driving endless errands; teens stranded in cul-de-sacs glued themselves to computers; families faced with nowhere to go but the mall, hunkered around the TV and watched nostalgic commercials of cars barreling down empty roads.

Few seemed to care. For 30 years, the housing industry filled wetlands and open space and churned out "product" (houses), while the best architects and planners—trained as modernists and sequestered in cities—ignored the whole raw, dry suburban scene.

Then, out of the blue—the Florida panhandle—came the town of Seaside in the early '80s. Seaside was a wildly successful fluke. A cultured man, Robert Davis, stuck with 80 acres of scrub, hired two brainy architects, Andres Duany and Elizabeth Plater Zyberk, of

## CIVANO

Civano is a living prototype. This 1,100-acre swath of Tucson desert, chock-full of green options and good intentions, is being monitored by a remarkable range of public and private players, including Fannie Mae, the quasi-governmental lending agency that is Civano's major owner. So far more than 100 people have bought a mid-priced (\$90,000 to \$160,000) model home, and nearly 20 families have moved in. When the 2,600 projected households settle in over the next decade, how much electricity, water, gas, landfill, and VMT (vehicle miles traveled) will they use? A brave new minimum, everyone hopes. Civano's L.A.-based designers, Moule & Polyzoides, think the community will instill a spirit that makes compact, light-neighborly living more fun than wasteful suburban ways.

Home buyers can choose from among several types of houses offered by a group of builders affiliated with the development. Or they can build from their own blueprints if the proposed house meets Civano's energy-efficiency standards (it must use 50 percent less fossil fuel than a house built to Tucson's model

energy code), and if the design passes muster with a review board. Most of Civano's 1,200- to 2,500-square-foot homes are variations on the local bungalow style of the '20s and '30s. Sited and designed to harness the sun's energy for power, warmth, and light,

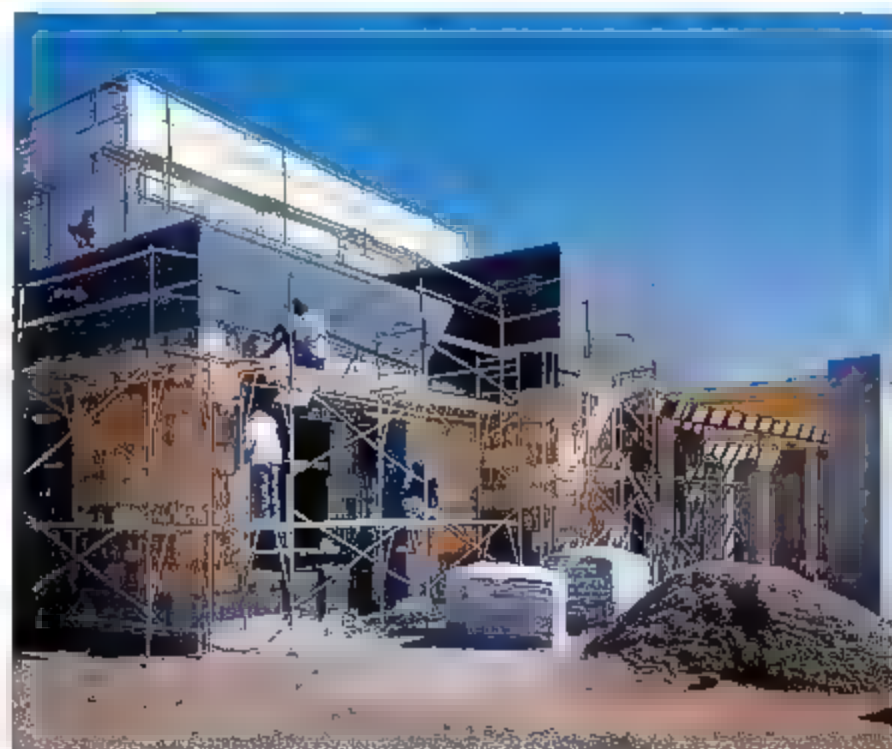
each has a solar water-heater and the ability to accept photovoltaic (PV) panels. Much construction material is recycled, and interior finishes are low in air-polluting chemicals. Recycled materials also appear in commercial products used, such as Anderson's Millennium windows and Interface's Solium flooring.

Although the homes look conventional on the outside, their insulation is highly innovative. Some model homes are made of straw bales

stuccoed on the exterior and plastered on the interior, while others use "thermal-mass materials," like old-fashioned adobe, with a density that slows the transfer of heat. Then there's RASTRA: 10-foot-long, beam-shaped "panels" made of 85 percent recycled polystyrene foam punched with holes. After being stacked so that the holes form channels, concrete is poured inside to make an instant shell. Some home owners opt to build with structural insulated panels (SIPs), a kind of plywood made of recycled wood scrap and insulating foam. Even Civano's wood-frame houses are beefier than most, with tighter joinery and more insulation in deeper (2x6-framed) walls. "I think our houses



*ABOVE: At the heart of many new communities is a public place where residents can socialize. In Civano, that spot is the Neighborhood Center, where offices and the Le Buzz cafe are open for business. LEFT: The center was also intended to demonstrate different methods of desert-climate building, such as straw-bale construction. The thick bales account for the pleasingly deep sills and door jambs seen above.*





D.P.Z., Miami, who formularized the "Town" as a compact network of narrow, landscaped streets lined with houses, stores, public gathering places and green space—all of it imbued with civic attitude and shaped by design guidelines pushing familiar, local styles and materials. The cluster of pastel cottages that popped up in Seaside put a pretty face on an abstract idea (togetherness)—and catalyzed a movement. The design establishment was infuriated. They called it, basically, a fascist resort—too prissy to be architecture, and too puny to be a town. But the public was entranced, visitors flocked, and prices skyrocketed.

Later named the "new urbanism" (N.U.), the school of collaborative rethinking that Seaside spawned dared developers to build dense, walkable towns offering social variety. In a true N.U. community, "your house is part of a neighborhood as opposed to a subdivision," says Andres Duany. "You can walk the kids to school, stop at a place that sells fresh bread and coffee, keep walking for exercise, and shop on the way home." You might commute, carlessly, to a local work center or "shut down the last bar at night without a problem."

Much of the housing in these new communities features neo-traditional styling—quaint porches, shutters, peaked roofs, and the like. "They're not replicas of old houses," says Rob Steuteville, publisher of *New Urban News*, "but they're not bloated McMansions with gables all over, either. The best are very simple, laid out with usable space and detailed with good craftsmanship and nice proportions." Most try to echo the regional vernacular, shaped by the climate, customs, and materials. By tapping into local color, developers not only decorate the "streetscape," they sell the houses. Charm sweetens the more challenging aspects of these new towns: smaller lots, closer strangers, untested resale, and often, strict design guidelines.

Seaside and Disney's Celebration, Florida, notwithstanding, most of the nation's new-urbanist inspired communities tend to blend into the scene—and that's the point. Kentlands, Maryland; Harbor Town, Tennessee; Hale Village Center and Amelia Park, Florida, are just a few. By official N.U. standards, there are 252 new-urbanist communities being



## RASTRA

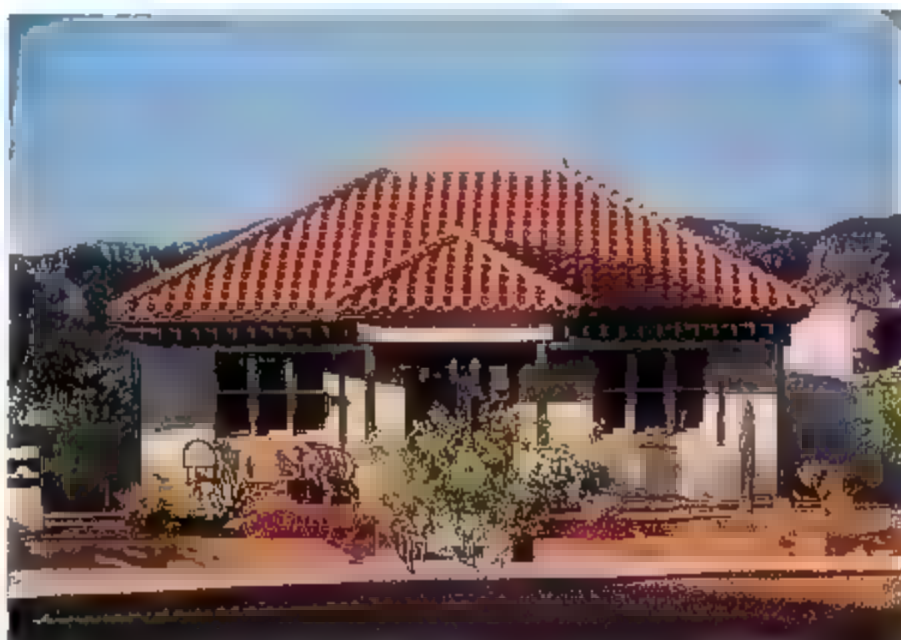
*Rastra is a construction option for Civano home owners. One person can lift a 10-foot panel of the recycled polystyrene. The channels will be filled with concrete.*

planned, built, or slowly inhabited; 125 of those are well under way. And the best encourage people to become not just good neighbors and citizens but stewards of nature, as well. Projects ranging from a massive L.A. "city district" called Playa Vista, California (13,000 homes), to the tidier Fairview Village, in

Fairview, Oregon (600 homes), show how enlightened architects, planners, and developers are blending emerging technologies with friendly town design.

We've chosen to highlight four communities at various stages of development to show how places can be designed to look comfortably familiar even as they operate with state-of-the-art research and technology (soon to be "state-of-the-shelf," according to McDonough). Civano, Arizona, is a laboratory for building design and enlightened social interaction. The developers of Coffee Creek Center, and Prairie Crossing (a "conservation community" outside of Chicago), each aim to return hundreds of acres back to pre-settlement naturalness. In the planned town of Haymount, Virginia, a PV-powered biological wastewater treatment greenhouse will double as a learning center. Each place features the newest old wisdom for making architecture adaptable to the seasons and micro-climate;

each also uses construction methods, materials, and utilities designed to limit waste and pollution, indoor and outdoor, and take energy from the cleanest sources. Although all four of them have been many years in the making, their goal is simple: to build better places serving a longer future—slowly and resourcefully. ■



*Small, well-proportioned bungalows are clustered together in Civano, allowing for better views. This hip roof makes for a spacious interior. Garages located behind the house are accessed via a rear alley.*

## CIVANO

have a solidity to them, a durability, that could someday, make people cherish them like historic houses," says Lee Rayburn, director of design and planning, who pays \$60 a month (one-fourth the norm) to run his own straw-bale home. "Old houses absorb damage and keep on going, because the materials have some muscle. Most new houses aren't so resilient."

## SIPS

*BELOW: Structural insulated paneling (SIPs)—a loadbearing sandwich made of insulating foam and a plywood made of recycled wood scrap—was used in this Courtyard home, designed around a private outdoor space. The street is landscaped with native plants. RIGHT: At the garden center, workers offer visitors helpful information about planning and caring for desert species.*

The architects designed the neighborhood center to demonstrate solar panel heating, PV electricity, and a cooling tower that conditions air by

running it over water "harvested" from the rooftops. Tourists visit Civano's "destination garden center," a nursery preaching xenscaping—desert landscaping—or tour the PV panel factory Global Solar in Civano's fledgling "industrial park." Civano isn't bustling—yet—but "I think it will be really lively in a year," says Scott Calhoun, who with his wife, Deirdre, is building an adobe house there. "I see people moving in every week and kids out playing. You need vision to imagine how it will be. But if you move now, you can shape it."





## PRAIRIE CROSSING

Prairie Crossing, Illinois, "one of the country's first conservation communities," as it calls itself, is amazing for what it's not: developed. The place is wide open—350 acres of farmland, pastures, prairies, and organic gardens surrounded by the purer realm that is the 2,500-acre Liberty Prairie Reserve.

But civilization is close. After a one-hour trip back from your Chicago office via Prairie Crossing's train station, you can walk home, pick some tomatoes from your plot, return to the train, ride to O'Hare Airport, fly to Paris, and eat them on a baguette. Current plans offer at least 317 home lots clustered on 132 acres—100 of them are already inhabited. The developer—Prairie Holdings Corporation, comprised of eight neighboring families—hopes to rezone and add a wider and denser mix of housing and business on land near the station. "We've not only tried to save open space and use less energy, but also to get people out of their cars and into mass transit," explains David Richmond, of Sturbridge Construction.

The houses, which look like turn-of-the-century Midwestern farmhouses, are constructed on the basis of new research from the Department of Energy. Its Building America program is monitoring new systems designed to make houses tighter, drier, and better insulated and ventilated. "We don't spend more, we just spend the money in different ways," says Richmond. "Stacked framing," for instance, uses deeper, 6-inch studs

and sets them 24 inches on center; it reduces the amount of wood and labor, but "buys more insulation." More efficient materials in traditional guises include a cedar-like siding made of cement and wood fiber; vinyl siding in vernacular red, blue, and gray; and high-performance, double-hung vinyl windows.

Three-year resident Wallace Winter used to live in a suburb with 7-acre lots. "Everyone had their piece of paradise but little interaction," he says. "I liked the idea of living in a friendly, interracial community with trails leading to a river where I can take my canoe. Some people might think a trail through their backyard is intrusive, but I think it's an opportunity to wave and schmooze."



*Prairie Crossing's houses are styled like the farmhouses original to the area. Homes fit on four lot sizes: small village lots, meadow lots, like this one, prairie lots near conservation land, and field lots. The D.O.E. chose the community as one of the nation's demonstration projects for new construction techniques.*

*BELOW: Although similar to a suburb in its street layout, Prairie Crossing preserved farmland rather than replace it. Among the open spaces: farmland to the left, gardens and pastures at top, a park, lake, wetlands and prairie at the center.*



## HAYMOUNT

"Houses aren't widgets to be turned out one after the other," says John Clark, the indefatigable developer who has spent 11 years crafting Haymount, Virginia—a 1,650-acre riverfront site 50 miles south of Washington, D.C. in the '80s. Clark fused two notions—"Seaside" and "Solar"—into an old-fashioned, new urbanist town shaped by state-of-the-art environmental attitudes and technology. While dealing with anti-growth lawsuits and banks reluctant to offer long-term loans, he's refined the master plan from D.P.Z., Miami. His plan includes 4,000 homes in varying sizes and styles, plus 750,000 square feet of office and retail space, packed into one third of the site. Houses in pedestrian-friendly neighborhoods will be built with healthy materials. Among the conservation

methods is a wastewater treatment plant with a greenhouse of glass tanks filled with effluent-consuming plants and organisms. Cleaned water is pumped into constructed wetlands. Also planned: a school, an organic farm, sites for 14 churches, a museum of artifacts dug up on site, and 1,000 acres of natural habitat. Clark hopes to finish Haymount in 2008—and to start very soon.



*A town green by Church Corner leads to a park that links to a "wildlife corridor" running through the project.*



*Homes inspired by the Georgian and Federal styles seen in Virginia.*

## COFFEE CREEK CENTER

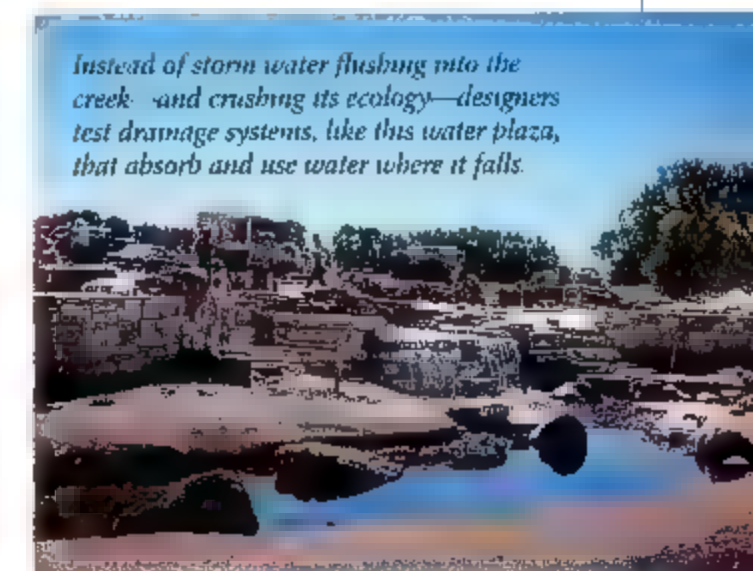


*A lookout on the landscape.*

"The developer [the Lake Erie Land Company, a subsidiary of a regional power company] wanted this community to be the finest, most environmentally sensitive in the nation," says Richard Price, of William McDonough & Partners, master planners for the 640 acres near Chesterton, Indiana. A testing ground for "new kinds of energy services," the proposed homes are designed for the photovoltaic future—"since many alternative technologies

aren't viable now"—with south-facing roofs, new heating and cooling systems, good daylighting, and tight shells. Over the next 10 years, about 2,000 residents will enjoy a mixed-use, mixed-income grid of walkable neighborhoods, with 160 acres of public land. "The idea is not just to live next to nature, but be part of it," says Price. The ultimate goal: "To restore the land to pre-settlement condition." House construction begins next spring.

*LEFT: The restored creek will unify the 200-plus acres of open meadows, prairie, and woodlands on the site. A walkway elevated above the wetlands follows the course of the stream.*



*Instead of storm water flushing into the creek—and crushing its ecology—designers test drainage systems, like this water plaza, that absorb and use water where it falls.*

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# classic THE POSTER Houses



American domestic architecture came into its own in the 20th century. Architects like Frank Lloyd Wright, Greene & Greene, and Philip Johnson created true homegrown styles. But an equally important development never showed up on a blueprint—the preservation movement. Laws now protect the finest period neighborhoods, owners of old houses maintain their original facades even as they update interiors, and architects turn to the past for inspiration.

This desire to hold on to the 17th, 18th, 19th, and 20th centuries ensures that future generations will experience American history in its most intimate form: the homes we lived in. From the simple log cabin

brought over by Swedish settlers in the late 1600s to the sophisticated geometry of 20th-century modernists, the rich variety of homes reflects the melting pot of people and cultural influences that have shaped this country. "Each one of us has an ancestry, we have a genealogy—and so do houses," says John Milnes Baker, author of *American House Styles*. Inside, a timeline of our architectural history.

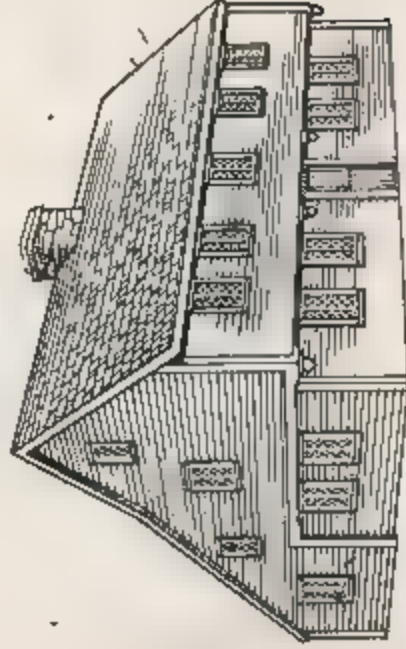
BY ALEXANDRA BANDON  
ILLUSTRATIONS BY TOM HENNESSY





#### DUTCH COLONIAL

**TIME:** 1650–1710 **PLACE:** New York's Hudson Valley, New Jersey **PLACE:** The gambrel roof built by Dutch settlers provided extra attic space



#### SALTBOX

**TIME:** 1670–1780 **PLACE:** New England **PLACE:** The distinctive catside roof sloughed off heavy snows and rain



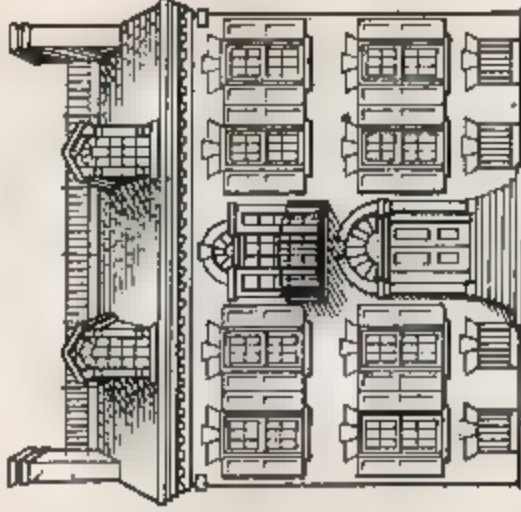
#### CAPE COD

**TIME:** 1710–1850 **PLACE:** New England **PLACE:** Abundant timber encouraged the expansion of a traditional one-room English cottage



#### GEORGIAN

**TIME:** 1720–1780 **PLACE:** East Coast to South **PLACE:** Builders copied from carpenter's manuals the classical designs favored in England



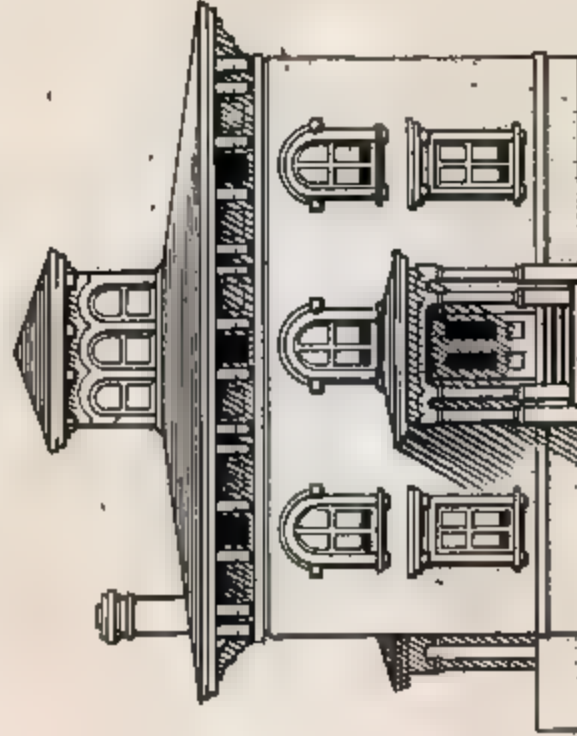
#### FEDERAL

**TIME:** 1780–1820 **PLACE:** East Coast to Midwest **PLACE:** After the Revolution, Americans gave the Georgian style a simpler look



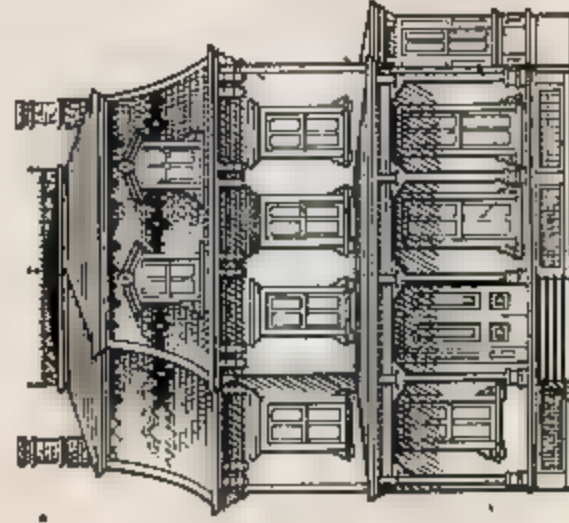
#### GREEK REVIVAL

**TIME:** 1825–1860 **PLACE:** East Coast **PLACE:** Pride in democracy, first espoused by the Greeks, led to the popularity of ancient forms



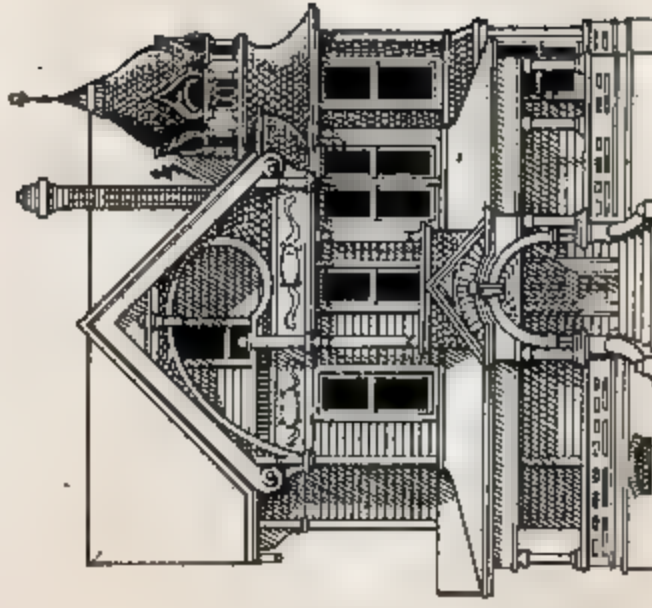
#### ITALIANATE

**TIME:** 1840–1885 **PLACE:** All areas **PLACE:** Pattern books promoted this picturesque, informal design, a change from the classical trends.



#### SECOND EMPIRE

**TIME:** 1855–1885 **PLACE:** Northeast to Midwest **PLACE:** The French mansard roof gained the world's attention at expositions in Paris.



#### QUEEN ANNE

**TIME:** 1880–1910 **PLACE:** All areas, especially the South and West **PLACE:** This ornate style is what people most often refer to as "Victorian."



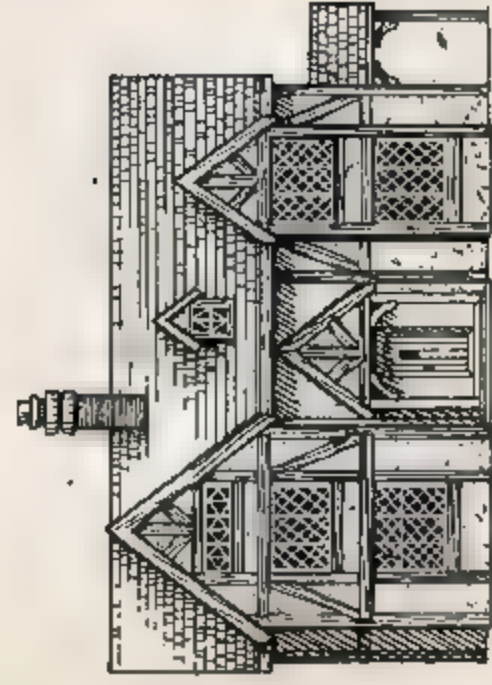
#### SHINGLE

**TIME:** 1880–1900 **PLACE:** Seaside New England **PLACE:** Today's architects have revived this hybrid of Colonial Revival and Queen Anne



#### COLONIAL REVIVAL

**TIME:** 1880–1955 **PLACE:** All areas **PLACE:** The Centennial celebration of 1876 popularized the house forms of the country's founding days

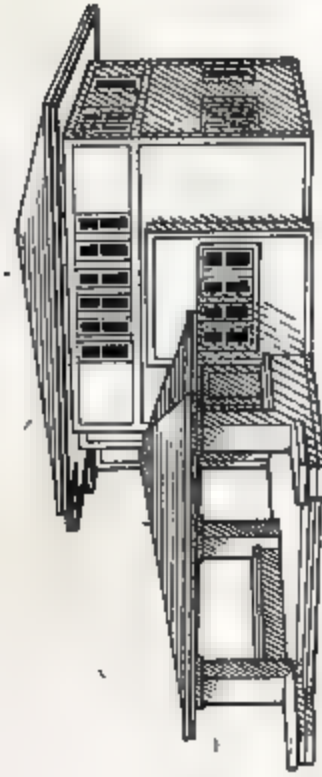


#### TUDOR REVIVAL

**TIME:** 1890–1940 **PLACE:** All areas **PLACE:** An asymmetrical, English-manner look to counter its boxy Colonial Revival neighbors in suburbia

ILLUSTRATIONS BY TOM HENNESSY

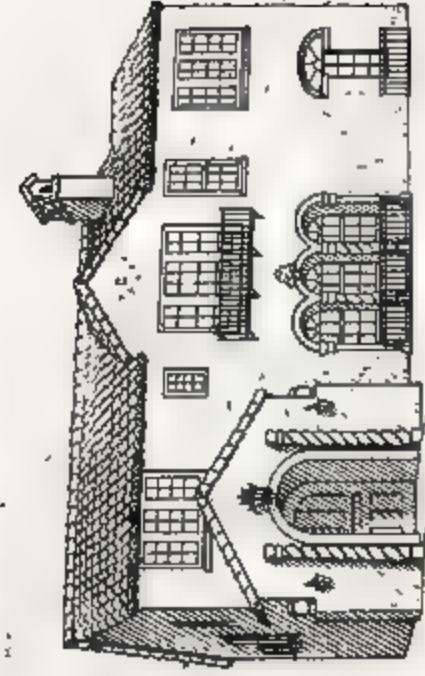




**PRAIRIE**  
**TIME:** 1900–1920 **PLACE:** Midwest Low-slung designs by Frank Lloyd Wright and others echoed flat prairie landscapes.



**CRAFTSMAN**  
**TIME:** 1905–1930 **PLACE:** All areas The Arts and Crafts movement embodied simplicity, handwork, and natural materials.



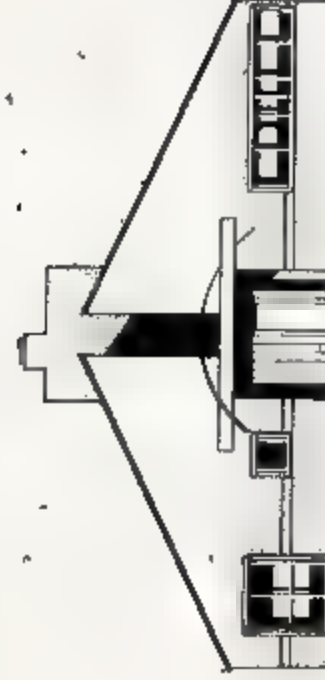
**SPANISH REVIVAL**  
**TIME:** 1915–1945 **PLACE:** California, Florida, Southwest Romantic revivals celebrated Mediterranean and native heritages



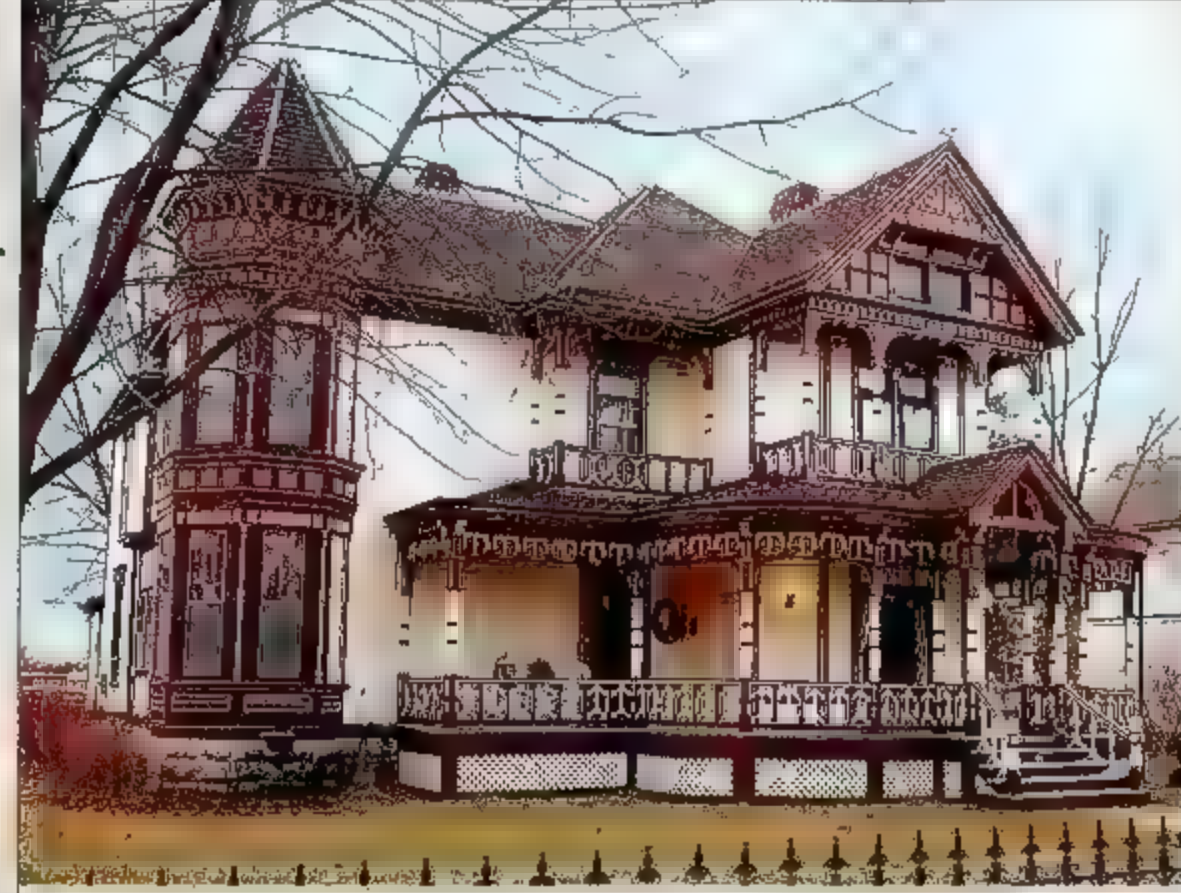
**RANCH**  
**TIME:** 1935–1975 **PLACE:** All areas California architect Cliff May's vision of Spanish ranchos was simplified by suburban builders



**INTERNATIONAL**  
**TIME:** 1930s–1990s **PLACE:** California, North east The unadorned geometry, too austere for housing, influenced public buildings.



**POST-MODERN**  
**TIME:** 1970s–present **PLACE:** All areas An attempt to make modernist design more human by incorporating historic references



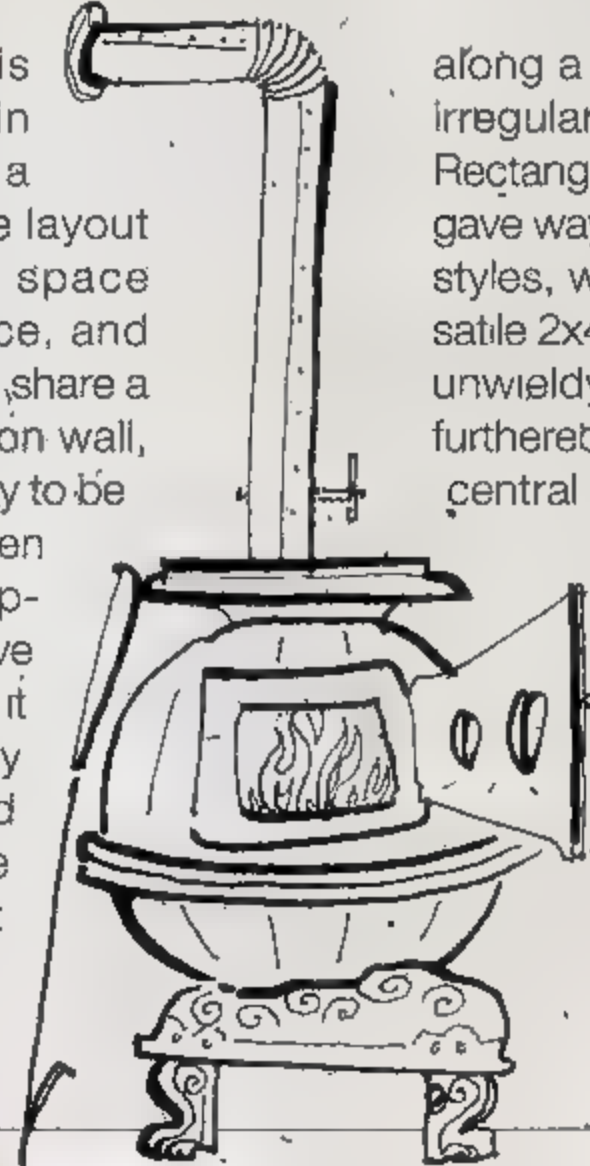
## The Ornamenting of America

Although a taste for heavy ornamentation shaped the houses of the Victorian era, it took the Civil War to make their detailing possible. The railroads and factories that the North built for the war launched the industrial age and with it the ability to mass-produce elaborate metal and wood embellishments. "What do you do with a cannon factory in peacetime?" asks Roger Moss, director of the Athenaeum of Philadelphia, a research library for American architectural history. "You start making stoves, or doorknobs, or decorative tin ceilings." By the 1870s, an expanded rail system could deliver

affordable products, like standardized lumber and machine-carved spindles and brackets, as well as wrought-iron fences, roof tiles, and fancy-cut shingles—or the machines to make them—from Boston to San Francisco. (Stylish details arrived later in the South, where it took 25 years to restore the railroads.) Now even the middle class could build fanciful homes, and the owners of houses built in plainer classical styles could update them with gingerbread porches, spawning a uniquely Victorian folk tradition that swept the country.

## Hearths and Homes

These days, a fireplace is just a design detail, but in Colonial times, it was a necessity that dictated the layout of a home. Each living space needed this heating source, and although two rooms could share a chimney along their common wall, they had to be small and boxy to be warmed by the fires. When 19th-century technology supplanted the need for a massive brick chimney in every room, it liberated house design. By 1830, the cast iron stove had improved and flues became smaller. The ability to connect multiple stovepipes to the same flue from any position

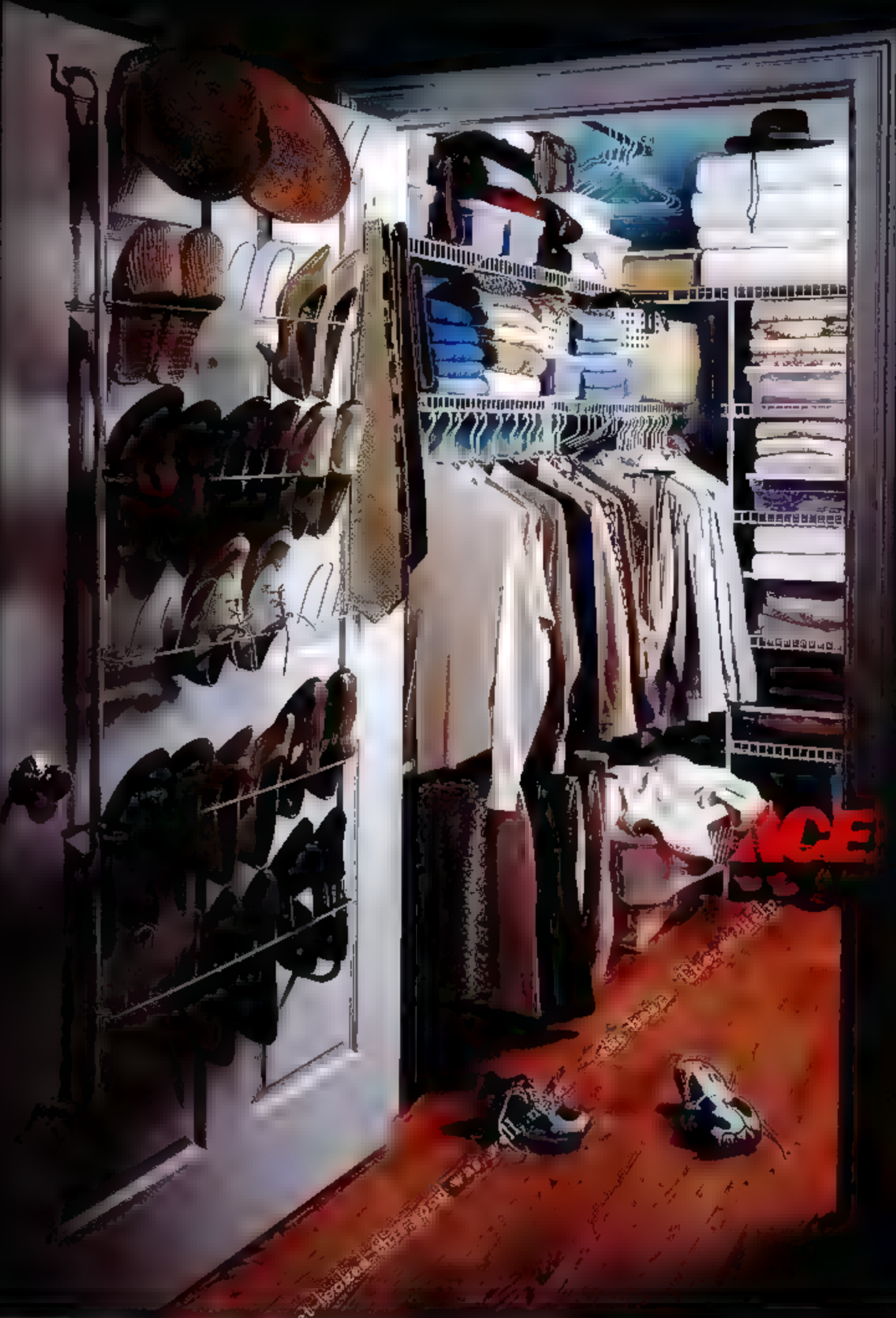


along a wall led to house designs with irregular layouts and additional rooms. Rectangular Georgian and Federal homes gave way to Italianate and Second Empire styles, with the wings and towers. Versatile 2x4 balloon framing, which replaced unwieldy post-and-beam construction, furthered the design revolution. By 1880, central furnaces that used single chim-

neys made in-room heating fires obsolete. Ducts carried warmed air, removing the last constraints on design. Enter the Queen Anne, with its complex floor plans, bay windows, odd-shaped roofs, and imaginative protrusions. No flue, no fireplace—unless, of course, you still wanted the charm.



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# DIRECTORY

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## Southern Comfort

Once the Salem project is done, T.O.H. travels below the Mason-Dixon line

BY JORDAN REED



All's well that ends well: In spite of some difficulties, not the least of which was the abandonment of the covered carriage-way plan, the Salem project turned out beautifully.

### Week 16 (January 1-2)

Show host Steve Thomas meets with mason Nick Driscoll, who is rebuilding the front brick sidewalk. Steve frolics on the swings with play-system manufacturer Frank Hunnswell. Steve and contractor Charlie Silva install a single-pane storm window on the front facade, then put in a triple-track unit.

**Watch and learn:** Painting mantle details.

**Resources:** Floor refinishing: Hosking Floor Refinishing, 508-668-8315. Water-based floor finish: Pacific Strong, BonaKemi USA, Inc., 800-872-5515. Playset: ChildLife Inc., 800-GO-SWING. Salem 1630 Pioneer Village, 978-745-0525. Storm windows: Inner Glass Window Systems, 800-743-6207. Triple-track storm windows: Harvey Industries, 781-935-7990.

### Week 17 (January 8-9)

Fence installer Mark Bushway shows Steve the new wood fence, then Steve watches contractor Tom Silva drill a new lock mortise. Steve helps master carpenter Norm Abram install a full-light door, then lends plumbing and heating consultant Richard Trethewey a hand with the refinished tub.

**Watch and learn:** Sweeping out wallpaper.

**Resources:** Fence: Walpole Woodworkers Inc., 508-668-2900. Door hardware: Baldwin Hardware Corp., 610-777-7811. Zippered temporary door: Stik'n Zip, 800-362-8239. Decorative painter: John Parsons, 617-328-0155. Full-light door: Frenchwood from Andersen Corporation, 651-439-5150. Adjustable jamb screws: Top Star, GRK Canada Ltd., 800-263-0463. Bathtub refinishing: Miracle Method

of Western Massachusetts, 800-525-TUBS. Reproduction bath hardware: Sunnyside Specialty, 800-444-4280. Toilet and pedestal sink: Kohler Co., 888-361-8000. Gas boiler and water tank: Viessmann Manufacturing, 401-732-0667. Wallpaper in living room: Brunschwig & Fils Otis Damask (gold) and Otis Garland Borders (gold and gray), 212-838-7878.

### Week 18 (January 15-16)

Salem is nearly done, and Steve surveys the finished front parlor while lighting designer Josh Feinstein describes the home's finished scheme. Norm grills alarm-system specialist George Bakos, and after a quick look at the house's circa 1800 reproduction furniture, it's wrap-party time.

**Watch and learn:** Installing a cement countertop.

**Resources:** Reproduction wallpaper: Waterhouse Wallhangings, Pineapple Damask (green and cream) and Hingham (red), 617-423-7688. Countertops: Firestate 2, 800-523-5902. Recycled carpet: Enviro-Tech from Mohawk Industries, 800-241-4900. Historic carpet: R. Burrows & Co., 781-982-1812. Woodward Grosvenor & Co., 1-800-111-44-1-562-820-020. Alarm: Wayne Alarm Systems, 617-595-0000. Appliances: KitchenAid, 800-422-1230.

### Week 1 (January 22-23)

Steve and Norm introduce the new Savannah project, an 1864 Italianate Victorian townhouse. Steve meets with home owners Mills and Marianne Fleming, who tell him the place will need new heating and AC systems, kitchen and bath remodeling, and some wood floor repair. Norm goes over the work that will take place in the basement and on the front facade with job foreman Mark J. Fitzpatrick.

**Watch and learn:** A brief history of Savannah.

**Resources:** Carnage: Carnage Tours of Savannah, 912-236-6756. Contractor: J.T. Turner Construction Co. Inc., 912-356-5611.

### Week 2 (January 29-30)

Mark and Norm observe the work that has already begun, including new framing on the roof. Steve, Mills, and designer Jeffrey Verheyen take a look at how the plans have changed since the project started. Richard talks with plumbing contractor Ernest Hulson, who will use an in-line system to ventilate the first-floor bathroom.

**Watch and learn:** Historic plumbing systems.

**Resources:** Alex Raskin Antiques, 912-232-8205. PVC pipe: Charlotte Pipe and Foundry, 800-438-5091. Concrete: Blue Circle Material, 912-232-6155. Owens Thomas House, 912-233-9743.

### Week 3 (February 5-6)

Steve and Norm inspect the soon-to-be-installed heating, ventilation, and air-conditioning system. Roof coatings specialist Scott Benning shows Norm the acrylic substance he's applying to guard against damage. Norm checks in with mason Terry Wright, who's using salvaged bricks on the side of the house.

**Watch and learn:** Historic AC systems.

**Resources:** Wormskoe Historic Site, 912-353-3023. Windows: Weather Shield Windows & Doors, 800-222-2995. Heating- and cooling-duct system: Unico Inc., 800-527-0896. Condenser units: Trane Co., 903-581-3660. Green-Meldrum House, 912-233-3845. Metal roof: Terra Metal, installed by Metacrafts Inc., 912-236-0615. Acrylic roof coating: AcryMax, 610-566-7470. Attic stair: Bessier Stairway Co., 901-360-1900.

### Week 4 (February 12-13)

Norm and carpenter Terry Thomas remove an oak floor to reveal the original heart pine. Steve watches insulation contractor Monty Ball spray on a cellulose formula. Norm and foreman Robert Welsh install plywood around the bay window.

**Watch and learn:** Removing oak flooring.

**Resources:** Spray-on cellulose insulation: GreenStone Industries, 800-488-5565. MDO Board: Georgia-Pacific Corp., 800-284-5347.

### Week 5 (February 19-20)

Norm and insulation manufacturer Kirk Villar discuss the cotton scrap batting they're using to warm the

walls, then flooring contractor Mike McMurray displays the new long leaf heart pine floor. Painter Steve Taylor preps the cornice and ceiling. Finally, Norm and Steve inspect the fan and ductwork on the roof that will vent air from the new bathroom.

**Watch and learn:** Using a dry-wall sander.

**Resources:** Fort Pulaski National Monument, 912-786-5787. Sander: Porter Cable, 800-321-9443. Heart pine: Authentic Pine Floors Inc., 800-283-6038. Ventilation system: Fartech Inc., 800-747-1762. Insulation: Greenwood Cotton Insulation Products Inc., 864-229-2571.

### Week 6 (February 26-27)

Steve watches paper hanger Peter Bridgman install a ceiling covering. Norm watches another paper hanger, Don Taylor, prep a wall with vapor barrier paint and fiberglass matting. Finish carpenter Steve Scherz shows Norm the home's new floor and crown moldings. Steve finds tile contractor Dennis Spikes readying the bathroom wall for tile.

**Watch and learn:** Making an iron railing.

**Resources:** Smith Forge, 912-234-9490 or 912-234-2651. Paint: Dulux by Glidden. Paper (ceilings): Peter Bridgman Wallpapering, 510-653-9590. Wallpaper: Bradbury & Bradbury Art Wallpapers, 707-746-1900. Wallpaper adhesive: Shur-Stik, 221 by Gibson-Homans, 800-433-7293. Wall stabilization system: Glid-Wall fiberglass wall system by Glidden Co. Custom doors: Savannah Millwork Inc., 912-232-1364.



Georgia on their minds: Steve and Norm pose on the porch of the Savannah project house with owners Mills and Marianne Fleming and their newborn child.

PHOTOS COURTESY OF WGBH

## PUNCH LIST

p. 16

November 1999: Pages 114-115. Small wooden box on table, leather box on vanity and pitcher in shower all from the Lillian August Collection, 17 Main Street, Westport, CT 06880, 203-454-1775. All white Moroccan ceramics with silver trim (in small cabinet, on vanity and on wooden table) available through Mediterranean Living Inc., Don Basco Place, Portchester, NY 10573, 914-935-9630. Page 118: Wooden sailboat, teddy bear and woven rug all available through the Lillian August Collection, see above. Car print on wall available through J. Pocker & Son, 222 Road West, Westport, CT 06880, 203-222-7800.

## HOUSE CALLS WITH STEVE

pp. 22-24

Architect: Treffe LaFleche, LDA Architects LLP, 222 Third Street, Suite 0222, Cambridge, MA 02142, 617-621-1455; www.lda-architects.com

## HOUSE CALLS IDEAS NOTEBOOK

pp. 26

Tolondo stool: \$329, Lee's Studio, 212-581-4400.  
Patio Terrace stool: \$328, Palecek, 800-274-7730.  
Mason barstool: in cherry, \$290, Pompanoosac Mills, 800-841-6671.  
Clickstrip: Ardee Lighting, 704-482-2811.  
Puklight: Lucifer Lighting, 210-227-7329.  
Woodard Weave rugs: \$14.75 per square foot, Woodard & Greenstein American Antiques, 212-988-2906.

## ASK NORM

pp. 29-31

National Fire Protection Association: Quincy, MA; 617-770-3000. www.nfpa.org.  
Fine detail sander: MSXE 636-2 fit with scraping blade: Fein Power Tools, Pitts-

burgh, PA;

412-331-2325 or 800-441-9878.

United Inventors Association offers an Inventor's Resource Guide. Rochester, NY, 716-359-9310. Inventors Digest Online: www.inventorsdigest.com.

## ICING ON THE CAPE

pp. 32-34

Architect: Rick Bechtel, Bechtel Frank Erickson Architects, Inc., 1840 Massachusetts Ave., Lexington, MA 02421; 781-862-3313.

## ONE AND ONE MAKES GLUE

pp. 36-41

Page 36, blue and clear epoxy, Inst-n Epoxy, Devcon, 264 Howard Street, Des Moines, Iowa, 800-227-7950.  
Page 40, left to right:  
Structural, no sag epoxy adhesive paste, Aboweld 55-1, Abatron, Inc., 5501 95th Ave., Kenosha, WI 53144, 800-445-1754; Extra working time epoxy adhesive, Super Strength Epoxy, Pacer Technology, 9420-T Santa Anita Ave., Rancho Cucamonga; 888-460-802, CA 91730-6117; Metal epoxy, Magna, VersaChemCorp., 6643-T 42nd Terrace N., West Palm Beach, FL 33407-1212; 561-845-2425. Epoxy grout, Kerapoxy, Mapei Corporation, 530 Industrial Dr., West Chicago, IL 60185-1828, 630-344-8000. Page 38, Flex-Tec HV, Advanced Repair Technology, Box 510, Cherry Valley, NY 13320; 607-264-9040. Page 41, Pump dispenser: West System, Gougeon Brothers, Box 908, Bay City, MI 48707; 517-684-7286; Double and single tube: Simpson Strong-Tie Co., 1450-T Doolittle Dr., P.O. Box 1568, San Leandro, CA 94577; 510-562-7775; Putty and Syringe: Pacer Technology. Our thanks to John Stahl, Advanced Repair Technology, and Rodney Pendleton at Devcon.

## BRONZESMITH

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Bronzesmith, Jerry Coe, 1214 Fourth

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**WINNING THE PROPERTY TAX GAME**  
pp. 44-47

National Association of Realtors, Washington Information Resource Center, 700 Eleventh Street, N.W., Washington D.C. 20001, 202 522 9436; [www.realtor.com](http://www.realtor.com)  
Meyer Swozzi English & Klein, 1505 Kellum Place, Mineola, NY 11501, 516 741-6565  
Warshaw, Burstein, Cohen, Schlesinger & Kuh, 555 5th Ave., New York, NY 10017; 212-984-7700.

**UPON REFLECTION**  
pp. 48-49

Cline, Bettridge, Bernstein Lighting, 30 W22nd St., 4th floor, New York, NY 10010; 212-741-3280.  
LightSmiths Design Group, 2145 19th Ave, Suite 204, San Francisco, CA 94116, 415-682 0283  
Swanke, Hayden, Connel, 345 77th St., Apt. 3g, New York, NY 10021, 212-219-6757.  
Robert Gerloff Architects, 4007 Sheridan Ave. South, Minneapolis, MN 55410; 612 927-5913  
Lightner, 631 Airport Road, Fall River, MA 02120; 800-215-1068.

**PICTURE THIS**  
pp. 51-53

Architects and Designers: Peter Cummings, Westmere Group, Inc., 1025 Post Road, Darien, CT 06820; 203-655-2611; [www.westmeregroup.com](http://www.westmeregroup.com).



ONE AND ONE MAKES GLUE: Inst-n Epoxy, by Devcon has 1,400 pounds of holding strength.

Gary Brewer, Robert A M Stern Architects, New York, NY, 212-967 5100  
William Kaufman, principal, Eric Warnagiris, project manager, WESKetch, Box

154, 22 Church St., Liberty Corner, NJ 07938; 908-647-8200; [www.wesketch.com](http://www.wesketch.com)  
Computer Software: ArchiCAD, sold by Graphisoft U.S. Inc., 235 Kansas St., Suite 200, San Francisco, CA, 94103; 1-800-322-3468; [www.graphisoft.com](http://www.graphisoft.com); [info@graphisoft.com](mailto:info@graphisoft.com)

**MAKING A SPLASH**  
pp. 54-56

Custom Pools: Newton, NH; 800-323-9509; [www.custompools.com](http://www.custompools.com)  
Endless Pools: Aston, PA, 800-732-8660, [www.endlesspools.com](http://www.endlesspools.com)  
Betz Pools Ltd.: Ontario, Canada, 905 640-1424; [www.betzpools.com](http://www.betzpools.com).  
Our thanks to: Leonard Weinberg, AIA, White Plains, NY; 916-761 1534.

**HELPING HANDS**  
pp. 58-59

Page 58: pruners, Felco 7, Distributed by Pygar Incorporated, Box 3147, Kirkland, WA 98083; 425-827 7676.  
Page 59: screwdriver, Good Grips by OXO International, 1536 Beech Street, Terre Haute, IN 47804; 800-545 4411, pliers, 2628 160, Sandvik, Box 2036, Scranton, PA 18501-2036, 800 414-5005; anti-vibe hammer, Stanley Works, 1000 Stanley Dr., New Britain, CT 06053, 860-225-5111; snow shovel, Snow Boss, Ames, Box 1774, Parkersburg, WV 26101; 304-424-3000, putty knife, Red Devil Inc., 2400 Vauxhall Road, Union, NJ 07083 1933, 908-688-8872.

**INSTANT REPLAY**  
pp. 60-61

TiVo Inc. 877 FOR TIVO, [www.tivo.com](http://www.tivo.com) Replay Networks Inc., [www.replaytv.com](http://www.replaytv.com). Universal Plug and Play, 800 426 9400; [www.microsoft.com/HOMENET/upnp.htm](http://www.microsoft.com/HOMENET/upnp.htm)

**WHEN PESTS ARE GUESTS**  
pp. 62-63

National Pest Control Association, 8100 Oak Street, Dunn Loring, VA 22027. Liberty Pest Control, Box 250, Middletown, NY 10940; 914-292-4610

**THE DETAILS**  
pp. 65-68

Page 65: Frau USA Corp., Vanity Fair chair, \$3780; 212-777-7592, [www.frau-usa.com](http://www.frau-usa.com). Page 66, clockwise from upper left: Hickory Chair, Classic Modern club chair, \$990; 800-349-4759, [www.hickorychair.com](http://www.hickorychair.com) Mitchell Gold, Romeo Platum chair, \$3,000; 800-789-5401; [www.mitchellgold.com](http://www.mitchellgold.com). Milang Road, Victorian club chair, \$1,395, 800-592 2537, [www.kohlerco.com](http://www.kohlerco.com). Broyhill club chair, \$749 00; 800-327-6944; [www.broyhillfurn.com](http://www.broyhillfurn.com).  
Donghia, Serpentine club chair, \$2600 plus textile; 800-366-4442  
Palecek, Argentina club chair, \$1972, Ottoman, \$854; 800-274 7730; [www.palecek.com](http://www.palecek.com). Upholsterer: Raken Leaves, 212-533-8189.

**OPENING STATEMENT**  
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Door hardware: Circocast, 380 7th St., San Francisco, CA 94103; 415-863-8319  
Featured door: Rochester Colonial Manufacturing, 1794 Lyeil Ave., Rochester, NY 14606; 800-321 8199; [www.rochestercolonial.com](http://www.rochestercolonial.com). Page 80, from left to right: Glass and panel double-doors, custom-

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made by Architectural Components, Inc., 26 North Leverett Rd., Montague, MA 01351, 413-367-9441. Hand blown glass panel door, International Wood Products, 7312 Convoy Court, San Diego, CA 92111; 800-468 366; [www.iwpdoors.com](http://www.iwpdoors.com). Mahogany double-doors with glass panels, Rochester Colonial Manufacturing, Six panel painted pine or oak door, Morgan Manufacturing, 228 West 6th Ave., Oshkosh, WI, 54902, 920-235-7170.

**FAMILY TIES**  
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3Com Corp.: 800-638-3266, [www.3com.com](http://www.3com.com)  
Our thanks to: J.M. Starnes, Essex Group, Fort Wayne, IN.

**A CLEAN SLATE**  
pp. 84-91

Nick Berman Design, 1301 Tigertail Road, Los Angeles, CA 90049; 310-476-6242 Ernesto Alonzo Construction,





# HOMEOWNER'S HELPLINE

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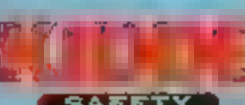
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#### POSTER: CLASSIC HOUSES pp. 109-114

International house style: Architect Philip Johnson's Glass House in New Canaan, CT, 1949  
Post-Modern house style: Architect Robert Venturi's Vanna Venturi House in Philadelphia, PA, 1964, Venturi Scott Brown & Associates Inc., 215 487-0400, [www.vsb.com](http://www.vsb.com). Our thanks to: John Milnes Baker, AIA: 914-232-8569, the author of *American House Styles*, W.W. Norton & Company, 1994  
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TOP: Fire gutted the top floors, leaving the roof open to the elements. The porch was added at the turn of the century. LEFT: Several fireplaces feature painted wood mantels. RIGHT: The basement contains a spring well and a door behind which escaped slaves reportedly hid as they made their way to Canada.

If you know of a house that should be saved, please write to: Save This Old House, 1185 Avenue of the Americas, 27th floor, New York, NY 10036.

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